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SEPTEMBER, 1917

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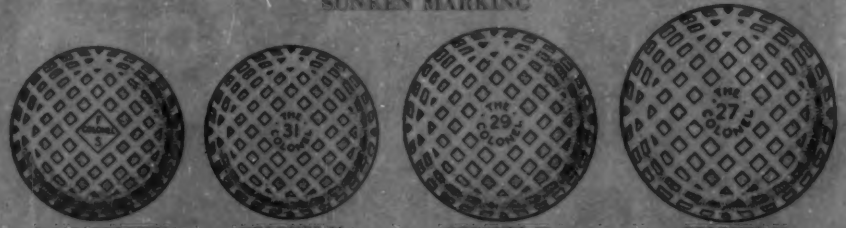

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CONTENTS

COOPERATION OF INFANTRY AND FIELD ARTILLERY 157

GERMAN RAID ON BRITISH TRENCHES 174

ORGANIZATION AND INITIAL TRAINING OF A COMPANY ..... Maj. J. C. Wise, U. S. Reserves 201

VARIED GROUND:

- Quarters for Army Officers' Families 211
- The Cost of Army Uniforms 212
- French Chevrons and Our Own 213
- Medical Corps Mortality 214
- Numbering Our Army Units 214
- What Service Ribbons Mean 215
- Intensive Training in Marksmanship 217
- Rifle Shooting 218
- Concrete Bases for Rapid Firers 218
- Notes on Infantry Organization 219

EDITORIAL DEPARTMENT:

- How to Maintain Our Families 221
- Looking Ahead—A Military Policy Needed 222
- "All Together, Soldiers!" 224
- Officers for the National Army and National Guard 225

NIGHT OPERATIONS:

- Small Arms Firing Regulations, Continued 228

UNITED STATES INFANTRY ASSOCIATION 236

Officers—Change of Address—New Members—Ballot.

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VOL. XIV SEPTEMBER, 1917 NO. 3

Cooperation of Infantry and Field Artillery[1]

MATÉRIEL IN USE IN THE FRENCH AND GERMAN ARMIES

IN general the guns and mortars of the German Army are of greater range than the French guns and mortars of the same caliber. They also fire heavier projectiles. This inferiority of the French matériel is fortunately compensated for in the French projectiles by a heavier bursting charge of high explosive.

French Artillery is divided into Field Artillery and Heavy Artillery.

Field Artillery comprises matériel smaller than 95 mm. Heavy Artillery comprises matériel larger than 95 mm. Heavy Artillery is divided into Heavy Field Artillery, which is drawn either by horses or tractors, and Artillery of Position or Siege Artillery.

All divisions of artillery comprise both guns, howitzers, and mortars of both modern and ancient construction.

Heavy Siege Artillery is designated as follows:

1. *Fortress or Coast Artillery.*

2. *Special Heavy Artillery or High-powered Heavy Artillery* (designated as "A. L. G. P."—*Artillerie Lourde à Grande Puissance*).

The A. L. G. P. is subdivided as follows:

(*a*) Heavy Railway Artillery (designated as "A. L. V. F."—*Artillerie Lourde sur voie Ferrée*). This is used either on standard or narrow-gauge tracks and fires from the truck.

This subdivision comprises old fortress, navy, or coast matériel, as follows: 190, 240, 320, 274, 395, 200, 95, 120, and 155 mm.

(*b*) High-powered Artillery which is transported by rail but which is dismounted and placed on a platform mount before firing.[2]

This subdivision comprises: 305- and 240-mm. rapid-fire, 340- and 293-mm. Schneider 400-mm. howitzer and coast guns, 270- and 370-mm. Fillioux.

INDICATIONS — CHARACTERISTICS OF GERMAN BATTERIES IN ACTION

The employment of masked artillery positions has become a general rule. For this reason troops are ordinarily subjected to the effect of projectiles without knowing where they come from. If aerial reconnaissance is not available it is very difficult to discover the position of hostile batteries and to bring the fire of our own counter-batteries upon them.

In some cases a battery cannot be seen by the troops upon which it is

[1]From notes in *Journal of Field Artillery.*

[2]Observer's Note: This is not clearly stated. These guns fire on their trucks *supported* by platforms.

firing, but may be seen by other troops. Certain indications permit an alert observer in some cases to reconnoiter the position of a hostile battery in action, although other observers see nothing.

Under modern conditions it is difficult to discover the positions of hostile batteries. For this reason officers of all arms should point out to our artillery all enemy battery positions which they can see which do not appear to be under counter-battery fire. Such positions may sometimes be indicated with an approximate accuracy sufficient for the initial elements of fire for adjustment and for the eventual delivery of effective fire for effect.

It is therefore necessary that all officers should be able to recognize the characteristic indications of German batteries in action by their flames, flashes, and smoke, and the different ways in which hostile projectiles of various calibers may be identified at the time they burst, so that not only the hostile battery positions may be signalled to the artillery but also the caliber of the guns.

1. CHARACTERISTIC INDICATIONS OF THE BATTERIES THEMSELVES

77-mm. Field Gun.—The flash is seldom seen. The flames when seen are short and of a pale-green, lurid color.

105-mm. Howitzer.—The flames are colored and a light vertical column of smoke is thrown up.

150-mm. and 210-mm. Howitzers.—The flashes are red and are mixed with a yellow smoke.

130-mm. Field Gun.—Each round fired gives a very vivid flash, much stronger than that of the other pieces.

False Mortars.—The Germans, not being able to do away with the columns of smoke from the 210-mm. mortars, have organized *false batteries* made of cone-shaped sheet-iron smoke-pots intended to imitate the smoke of the real mortars. It is necessary to avoid being deceived by these false batteries.

2. CHARACTERISTIC INDICATIONS OF VARIOUS PROJECTILES

These indications include the smoke made by the bursting of the projectile, the noise of the detonation, and the size of craters. By these means experienced observers are able to determine with some degree of accuracy the calibers of the projectiles in question.

In hard ground with a non-delayed-action fuze the following craters are characteristic:

150-mm. .....Crater 2.5 to 3 meters in diameter and 1 meter deep.
210-mm.....Crater 4 to 5 meters in diameter and 1.5 meters deep.

With delayed-action fuzes the craters are much larger, and exceed the figures given by about a third.

The 77-mm. projectiles are the easiest to distinguish, because they are by far the least powerful. But it should qe remembered that the time-fuzed high-explosive shell and the unit-projectile give much more violent and destructive bursts than the 77-mm. shrapnel.

Firing by Salvos.—The 77-mm. and 105-mm. batteries are 6-gun batteries. Rapid fire for effect is usually delivered by salvos of either three or six guns.

The 105-mm. howitzer batteries are four-gun batteries and often deliver fire for effect by salvos of either two or four guns.

Difference in the Bursts.—The 150-

mm. shells are equipped with non-delayed-action fuzes and their bursts are much more destructive than those of the 210-mm., which penetrate the earth with a muffled sound.

Whistling of the Shells.—The shells from the 100- and 130-mm. guns, which are fired at a high velocity, give a more strident whistle than the 150-mm. howitzers. The difference is even more marked in comparison with mortar shells. Moreover, in the case of shells fired from high-velocity guns the whistling is always very much like the noise produced by the "shock-wave" (*l'onde de choc*), analogous to the "crack" (*claquement*) of the infantry bullet. This "shock-wave" precedes the whistling and is often mistaken for the discharge of the gun itself.

All these indications are of relative value only. The only accurate indications are given by an examination of the fuzes and the fragments of the projectiles.

Shell Fragments.—In the case of steel shells only fragments of the base of ordinary shells and of the ogive of armor-piercing shells can be identified. The fragments of cast shells may be identified by their size. But the measurement of fragments, in order to give exact information, must be done with the greatest care and is a very delicate operation.

Examination of Fuzes.—The markings of fuzes give very definite information. They are especially definite in the case of time-fire for they furnish information as to the range of the battery which fired them.

Markings.—The following marks are found on German fuzes and shell fragments. From them can be determined the caliber and the nature of the matériel, that is to say, whether it is a gun, a howitzer, or a mortar, viz.:

F. K. (*Feld Kanone*) field gun.
N. A. (*Neue Artillerie*) new model artillery.
L. F. H. (*Licht Feld Haubitze*) light field howitzer.
S. F. H. (*Schwere Feld Haubitze*) heavy field howitzer.
Mrs. (*Mörsers*) mortar.
Kst. (*Küst Haubitze*) coast mortar.
12 K. (12 *Kanone*) 12-cm. gun.
13 K. (13 *Kanone*) 13-cm. gun.
15 Shr. (15 *Schrapnel*) 15-cm. shrapnel.
15 gr. (15 *granate*) 15-cm. high-explosive shell.
15 Brand gr. (incendiary shell).

Fuze Markings

M. V. (*mit Verzogerung*) delayed-action.
O. V. (*ohne Verzogerung*) non-delayed-action.
Nur Gr. Bz. (*nur granate Brennzünder*) high-explosive fuze for time shell.
D. Z. (*Doppelter Zünder*) combination fuze.
Gr. Z. (*granate Zünder*) percussion fuze.
Bdz. (*Bodenzünder* 06) base percussion fuze, 1906.

EXAMINATION OF THE POINTS OF FALL

The examination of the points of fall and of the whisting of projectiles, especially during fire for adjustment, often indicates the direction of fire and consequently the battery positions. These indications, combined with a study of the map, sometimes enable the battery position to be determined within 200 or 300 meters.

The Sound of the Gun.—In the case of guns with a flat trajectory, when the observer is in the vicinity of the tra-

jectory near the point of fall, three successive detonations may be heard:

1. The "shock-wave" which is produced, in the case of the infantry bullet, by the rolling (*roulement*) of the air. This "shock-wave" gives the impression of a cracking noise. In the case of guns it produces a sound which is analogous to that of the discharge of the gun itself.

2. The whistling of the projectile as it falls, if the observer is outside the trajectory, or the detonation of the projectile if the observer is very close.

3. The sound of the discharge of the gun.

In the case of howitzers and mortars, only the last two sounds are heard. In such cases the sound of the discharge of the gun may precede that made by the fall of the projectile.

TRENCH MATÉRIEL

For use at the short ranges which are often met with in trench and siege warfare, special artillery matériel is employed, which is served by artillery personnel, as well as bomb-throwers served by the infantry.

The flat-trajectory matériel of this nature includes revolver guns and rapid-fire guns of 37 mm. and 47 mm. On account of the flatness of their trajectories they are used as flanking guns or for the purpose of supporting the infantry at the moment of the assault.

The other trench matériel—mortars, trench guns, and bomb-throwers—is used for vertical fire.

Smooth-bore Mortars.—Smooth-bore mortars, of very old model, were found among the armament of fortified places and were utilized at the beginning of trench warfare. They included mortars of 15, 22, 27, and 32 cm. They fired spherical bombs which could only bound and run along the ground. The weights and ranges are as follows:

Caliber, cm.	Weight, kg.	Extreme range in meters (approximate)
32	75	1,500
27	51	1,000
22	23	500
15	7	300

Unfortunately these mortars used black powder, which produced a great deal of smoke, and for this reason they were very easily registered by the enemy.

Trench Mortars.—Since the beginning of the war, in order to meet the powerful German *Minenwerfers,* new models of smooth-bore trench mortars have been built. These are muzzle-loading, but they use B powder and have a much increased range. The weight of projectile for the 340-mm. trench mortar is 200 kilograms.

These projectiles, fired at a low velocity, contain large bursting charges. The 200-kilogram projectile contains a bursting charge of 100 kilograms.

The effect of such projectiles, which have been named aerial torpedoes, is very destructive.

In general, these mortars consist of a platform with two vertical cheeks which include trunnion beds and a guide-slot. The tube has two trunnions and two studs mounted on a collar. The studs work in the guide-slots and are held by two wing-nuts. By this device the desired elevation is given to the mortar.

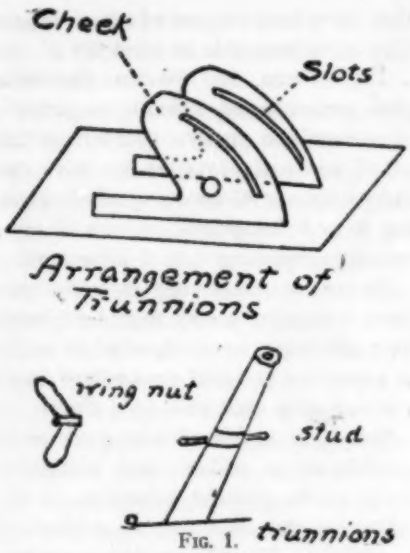


FIG. 1.

The following characteristics show the models of trench mortars in present use:

Bomb-Throwers. — Trench mortars and guns are very heavy matériel which it is difficult to move, but bomb-throwers are much lighter and are easily transportable. They are used to throw grenades to a certain range. These grenades are lighter than trench-mortar projectiles and heavier than hand grenades.

In the case of the 58-mm. trench mortar the projectile itself is not placed in the bore of the mortar, but only a cylindrical stud which projects to the rear, known as the "queue." In the case of the 240-mm. and 340-mm. the entire projectile is placed in the mortar.

Trench Batteries.—Trench artillery is organized into 6-gun batteries and is manned by a special personnel.

Each battery consists of 3 officers, 200 men, 120 horses (in round numbers), and 20 vehicles.

Caliber, mm.	Weight of projectile, kg.	Weight of bursting charge, kg.	Extreme range, meters
58 (No. 1)	16	6	400
58 (No. 2)	45	23	450
240 T	87	45	1,000
340	200	100	2,000

Projectiles.—The projectiles are elongated. In order to steady them in their flight they are provided with vanes.

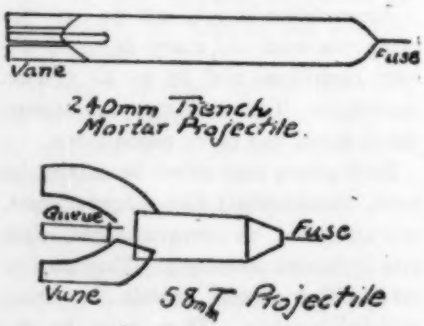


FIG. 2.

There are several kinds of bomb-throwers. Some, such as the Aaren, use a small propelling charge of black powder; others use springs, either spiral or plate springs, and still others use compressed air.

THE INFANTRY CANNON OF THE FUTURE

In the attack of a position organized for defense, whether in trench warfare or the war of movement, troops which have taken the first enemy lines often hurl themselves against a second line, which, although it has been demolished by the artillery, is still able to stop the infantry advance by means of machine

guns. These machine guns, placed in hidden block-houses, and having either escaped the fire for adjustment of the artillery or else been kept hidden with their gun crews in dugouts, are at the last moment placed in emplacements previously determined upon.

Against such machine guns the infantry can do nothing, and the artillery is so far away that there is no opportunity to ask for its fire. Communication with the artillery is, on account of the hostile curtain fire, so difficult that it is impossible to ask for accurate fire delivered rapidly. *It is necessary that means to destroy such machine guns shall be given to the infantry themselves.*

Bomb-throwers which are provided for trench warfare have so little accuracy that they cannot be used for this purpose. It would seem that if light pieces of artillery served by gun crews which can carry them forward are furnished, when the first waves of the assault have carried the first of the enemy's trenches, it will be possible to destroy those machine guns which have escaped the artillery preparation and which afterwards have disclosed their positions in the second line. For this reason several attempts have been made during large attacks to have the infantry accompanied by 37-mm. guns and 65-mm. and 80-mm. mountain guns.

The expected results have not been attained. These guns have a flat trajectory, especially the 37-mm. gun, at short ranges, and it is necessary to place them in uncovered positions outside of the trenches. The cannoneers make very visible targets, which are easy to hit. It has frequently happened that they have been put out of action before they have been able to open fire.

The 65-mm. and 80-mm. mountain guns present great difficulty on account of ammunition supply. In a terrain full of all kinds of obstacles one man can carry only one 80-mm. projectile weighing 8 to 9 kilograms, or one 65-mm. cartridge weighing 6 to 7 kilograms.

As an accompanying infantry gun there is required a very short light howitzer which can be transported as easily as a machine gun and can be fired from a trench or a shell hole or a ditch.

The 37-mm. and 47-mm. guns seem suitable as to caliber; and a careful study of the problem brings us to the conclusion that these are the calibers to be adopted. The 37-mm. fires a projectile weighing 0.5 to 0.8 kilogram, and the 47-mm. fires a projectile weighing from 1 kilogram to 1.5 kilograms. Such a gun should have a low initial velocity, because the pieces will be rifled howitzers which can fire a projectile with a very thin wall and a large percentage of explosive, 50 per cent to 60 per cent at the least.

These howitzers will be laid directly or by means of periscopes, and the powder charges will be varied so as to obtain ranges of between 200 meters and 1,000 meters.

Ammunition supply will be easy because one man can carry 15 to 20 37-mm. cartridges and 10 to 15 47-mm. cartridges. Two men carrying ammunition boxes can carry much more.

Such pieces may either be carried by hand, disassembled like machine guns, or, according to circumstances, they may be hauled on wheels. They may be fired either from tripods or from wheeled mounts. They must be ar-

ranged so that enough rapidity of fire may be obtained to compensate for the small caliber.

The gun crews organized from the artillery or the infantry should be so organized that the pieces may be marched either singly or in sections of two. They should be a part of the infantry regiment and be assigned one to a battalion in the same way that machine-gun crews are organized.

Use in the War of Movement.—Light howitzers will be of as much, if not more, value in the war of movement as in the war of trenches; for in the attack of positions the infantry will meet the same obstacles, and the artillery will have neither the time nor the means to prepare the attacks as well as in trench warfare. The effect of the light howitzer will probably be more marked than in trench warfare, because the enemy will not have time generally to prepare casemates for his machine guns.

EMPLOYMENT OF ARTILLERY

In the War of Movement.—The mission of the artillery comprises:

(*a*) To open the way for the infantry advance by firing on everything which impedes this advance and on every obstacle which the infantry meets.

(*b*) In case of need, to shelter its own infantry by stopping the advance of the hostile infantry.

Offensive Action.—In the offensive, the artillery supports the infantry of the advance guard in the capture of positions.

When contact has been gained, the artillery should profit by every opportunity to gain a material and moral superiority over the hostile artillery in order to put it out of action. But the artillery battle should never have any object except the support of the infantry.

If the attack succeeds, portions of the artillery (accompanying batteries) should take position in the captured territory as soon as possible in order to make sure of their conquest and assist the completion of the success.

Defensive Action.—In defensive action the artillery becomes useful in interrupting the march of the hostile infantry. Fire is opened as soon as it can be effective. The artillery should avoid becoming absorbed in the artillery duel, because it should, *above all things,* make sure of the possibility of firing on the hostile infantry. When necessary, batteries or portions of batteries are hidden until the last moment in order to surprise the advancing enemy columns by a flanking fire.

Advance-Guard Artillery.—Artillery is not assigned to an advance guard unless there is sufficient infantry to protect it and unless, by means of its echeloning it in depth, it can be protected from being surprised by hostile artillery fire.

Before the present war it was assumed that artillery would not be assigned to an advance guard unless the advance guard was at least as large as a brigade.

In the future, on account of the increased range of artillery, there is reason to believe that there will be a tendency in most cases not to assign any artillery to advance guards. Assigned a march position a little in advance of the main body, the artillery will be in a position to move forward rapidly for the support of the infantry of the advance guard.

Rear-Guard Artillery.—The protection of the main body is the first consideration. The artillery is the principal arm of the rear guard and its proportion depends upon the strength of the infantry and also upon the terrain. The strength may be taken as one battalion (*groupe*) for each regiment of infantry.

Artillery with a Detachment.—If artillery is added to the strength of a detachment, it becomes the duty of the detachment to protect it. In each case it is thus necessary to come to a decision as to whether the advantage accruing from the addition of the artillery compensates for the inconveniences which are involved.

The proportion of artillery to be given to a detachment depends, as in the case of an advance guard, upon the infantry available to protect it during the march or during the battle. It should be noted that a detachment has only its own strength to rely upon, whereas an advance guard may, after a brief interval, depend upon the entrance of the main body into action.

The road space of artillery (300 meters for a battery, 1,000 meters for a group) should always be taken into consideration.

In principle not more than one battery should be assigned to a regiment, and a battalion (*groupe*) to a brigade.

Artillery in the War Position.—In the war position (more often referred to as "trench warfare") the entrenched troops increase in front and in depth the obstacles which impede the advance of the enemy infantry.

The rôle of the artillery remains the same as in open warfare, but assumes more importance.

Attack.—No attack is possible until after an intense and effective artillery preparation which has for its objects:

(*a*) To destroy the enemy's barbed wire.

(*b*) To disintegrate and destroy enemy's trenches and dugouts, and to destroy or annihilate their defenders.

(*c*) To prevent, or at least to interfere with, hostile artillery action.

(*d*) To prevent the passage of the enemy's reserves by curtain (*barrage*) fire.

(*e*) To destroy the machine guns wherever they can be located.

These results can be obtained only by methodical organization which requires much time and ammunition.

The various types of artillery—field artillery, heavy artillery, and trench artillery—receive different missions, depending upon their varying powers of destruction.

Field Artillery.—The mission of the field artillery is to make breaches in the barbed wire of the first line, to fire on all groups of the enemy who show themselves outside of their trench, and to execute curtain (*barrage*) fire.

Short-Range Heavy Artillery.—The mission of the short-range heavy artillery (howitzers and mortars) is to destroy or to disintegrate the trenches and dugouts of the first line.

Long-Range Heavy Artillery.—The mission of the long-range heavy artillery (heavy howitzers and mortars) is to fire against the hostile artillery and to destroy or to disintegrate the trenches and dugouts of the second line.

Trench Artillery.—The mission of trench artillery is to complete the action of the heavy artillery by disintegrating the first-line trenches and terrifying their defenders.

Accompanying Batteries.—If the attack succeeds, a certain number of the field and heavy batteries change position forward in order to assure the retention of the captured position and to prevent counter-attacks.

Defensive Action.—The experience gained in the French attacks in Artios and Champagne, and by the Germans in Russia, in the Balkans, and before Verdun, makes it possible to state today that an attack on a line of trenches should be successful if it is well prepared by an artillery *which is unhampered by considerations of ammunition supply.*

Under the rain of projectiles of all calibers which disintegrate or destroy the trenches, the dugouts and the barbed wire, and which annihilate the defenders, the defense of a line which can be seen by the enemy becomes almost impossible. The attack can be easily delivered and the position where the enemy's trenches existed can be occupied almost without firing a rifle shot.

But the artillery of the defense can make the enemy pay very dearly for his success, even if it cannot make that success ephemeral.

During the preparation of the attack the artillery of the defense can, by well-adjusted fire, counter-batter the enemy's artillery, bombard the positions of the first and second lines, and fire upon the communicating trenches in order to prevent or interfere with the assembling and moving of the enemy troops.

When the enemy launches the attack, the artillery of the defense opens with curtain fire before the first and second lines of the enemy until the first-line trenches have been occupied. The curtain fire is then kept before the first-line enemy position. Fire is also concentrated on the positions which have been lost in order to render them untenable and to permit the formation of a counter-attack.

In order to accomplish this, the defense should be in a position as in the attack, to reinforce the artillery already in position. If the attack has been secretly prepared, there will be little time to do this. For this reason the defense should at all times be ready to retaliate.

To this end, it is necessary at all times to study the front and the different hypotheses which may be made in regard to possible enemy attacks. In this way the rôle of the artillery of reenforcement may be deduced. There should be no delay in preparing battery positions for this purpose, as well as the organization of fire and communications.

The High Command should have at all times ready a strong artillery reserve of all calibers which can be easily moved. This consists of the artillery reserves of armies and groups of armies, and is composed of 75-mm. guns on tractors, heavy batteries drawn by tractors, heavy railway batteries, and supplies in wagons, or on tractors and by rail. When an attack is anticipated, all the artillery in position should be reenforced. As soon as the sector of the attack is known, the artillery of that sector should be reenforced in order that the enemy may be replied to on an equal footing and the position which he intends to occupy may be rendered untenable.

1. PROTECTION AGAINST THE FIRE OF ARTILLERY IN A WAR OF MOVEMENT AND IN A WAR OF POSITION

In Open-Warfare Employment of

Lateral Movements.—A body of infantry taken under the fire of a rapid-fire battery can in a certain measure extricate itself momentarily from this fire by a rapid displacement either to the right or to the left about 200 or 300 meters.

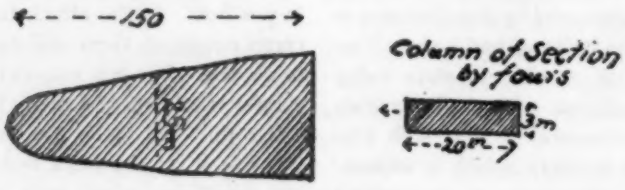


FIG. 3.

This displacement utilizes the difficulty which the artillery has in following with rapid-fire guns targets which move rapidly in a lateral direction.[1] It is to be especially recommended to troops who, having crossed a crest, in sight of and fired on by artillery, arrive in a defiladed zone.

March under the Fire of Artillery.—It is by *concealing its movements from view* and in *progressing rapidly* that infantry escapes best under the artillery fire.

All formations (lines or columns) are vulnerable, certain ones less so than others, depending upon the nature of the shells and the kind of fire, but what the infantry ought above all to seek are *formations which show the least and facilitate the least the regulation of fire.*

Lines of skirmishers generally make more visible targets for the artillery than small columns and are more easily adjusted upon. Whenever it is possible (that is to say, whenever they are not in a zone subjected to effective rifle fire) *infantry should march in small columns by echelon.*

In order to escape the observation of the artillery, these small columns should not hesitate to make detours *in order to take advantage of cover and of defiladed roads.* When it is necessary to cover open spaces it should be done at a single rush at a running step and *in good order.* Rushes should follow each other at irregular intervals.

Marching under Shrapnel and Shell Fire, Either Time or Instantaneous.—In order to avoid heavy losses, it is necessary to avoid altogether dense formations like section columns of fours. The formation in small columns with little depth or in small groups becomes necessary. Column of squads of half-sections by twos seems the best formation in which to march under shrapnel or time shell fire, or under percussion shell fire executed with non-delayed-action fuzes. Each file protects the neighboring files against the lateral

[1]Rapid-fire guns are in effect fastened to the ground by their spades. Some, like the 75-mm., have besides zones immobilized by means of wheel shoes also furnished with spades. The lateral displacement of the gun is obtained then either by pivoting the carriage around the spade (this is the case with the 75-mm., whose carriage slides on the axle), or by pivoting the gun around a vertical axis supported by the carriage over the axle (this is the case with the German 77).

Thanks to the sliding of the carriage upon the axle, the 75 can execute a sweeping fire within a limit somewhat large. The German gun can do so only within very small limits.

With the 77, in order to follow an objective moving laterally, it is frequently necessary to displace the spade, which retards the fire.

fragments of high-explosive shells just as the first rank protects the second rank to a certain degree against shrapnel balls. The rushes should be made between two salvos or two *rafales* (see Figs. 3 and 4). The intervals between columns should be at least 25 meters in order that one sheaf should not hit two columns.

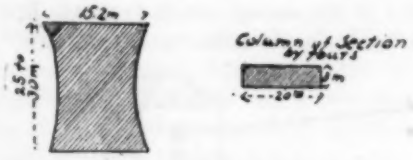


FIG. 4.—Zone covered by a 105-mm. time shell.

Under Violent Rapid Fire.—Small formations which are unable to move rapidly to the right or left nor to advance should halt. If no natural cover is to be found, the groups should hud-

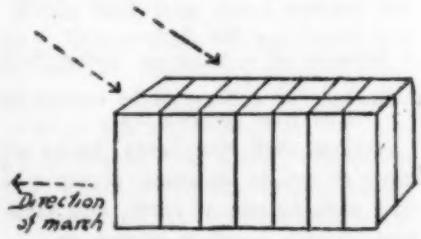


FIG. 5.—A column by twos under shrapnel fire.

dle together. The men lie down close together, one against the other, under the cover of their packs, which, together

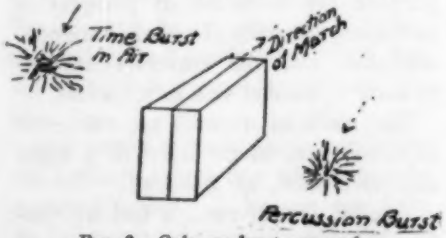


FIG. 6.—Column by twos under high-explosive shell fire.

with their steel helmets, form a protecting cover from the fragments. If this state of affairs continues for some time, the men can protect themselves by small mounds of earth thrown up at one side.

Advance under Large-Calibered Shell Fire.—In this case the shells produce their greatest effect by the explosion itself rather than by the fragments. The effect is like the explosion of a mine. The necessity of having thin formations takes precedence over the question of visibility. Columns by one (single file) or lines meet the required conditions, the line seeming preferable to the column on acccount of the moral effect which may be produced by a burst unluckily well placed.

Use of Forests.—Forests furnish no protection. On the contrary, they are very dangerous, because the tree trunks cause the detonations of high-explosive shells above the ground. But forests do serve a useful purpose as masks behind which the assembling or advance of infantry may be hidden.

In zones beaten by artillery fire it is necessary to avoid small clumps of trees, because they are easily registered by hostile batteries, and when the enemy sees troops entering them they overwhelm them with projectiles. Such small clumps of trees become veritable "projectile nests," which should be utilized only as masks behind which it is possible to hide momentarily.

Reserves.—The reserves are always posted in positions defiladed from the view of the enemy, but they are not for this reason any the less exposed to the zone fire of the hostile artillery.

Defiladed positions just behind crests are always dangerous, for it is easy for the hostile artillery to register on the

crest. This is true except when 45-degree slopes are to be found, behind which one cannot be harmed except by vertical fire, or when veritable "pockets" are discovered, such as exist in some regions (see Fig. 7). For this reason it is better, when possible, to occupy the counter-slope, because the enemy, if he does not suspect the existence of the second crest, will register on the first (see Fig. 8).

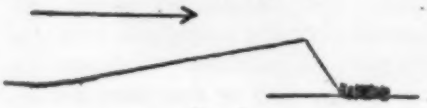


Fig. 7.

The Germans, in their zone fire, frequently sweep successive lateral zones, sometimes firing on one for a long time without modifying the deflection. Observation of the enemy's methods of fire may sometimes permit officers to make very advantageous dispositions of their troops.

When a zone already filled with shell craters is encountered, it is well to avoid it, for the Germans are in the habit of firing often on ground already registered.

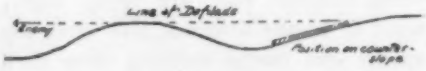
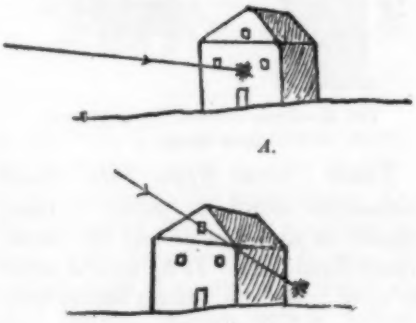


Fig. 8.

Use of Natural Obstacles.—Ditches, slopes, and hedges form natural protections, cutting the terrain into small fields which can be taken advantage of in such a way as to obtain some protection against lateral shell fragments.

In certain cases walls furnish protection; 77-mm. and 105-mm. shells penetrate walls unless they exceed 0.4 or 0.5 meter in thickness. Shells which go through such walls burst soon afterwards, and for this reason it is necessary not to protect oneself behind thin walls (see Fig. 9). But a succession of walls, such as are often met with in some parts of the country, may, if the angle of fall of the shells is not too great, make an excellent protection. These conditions are often found in the vicinity of farms; but it should not be forgotten that a *farm attracts the fire of the enemy,* which becomes, like a forest, a veritable "projectile nest."



A.

B

Fig. 9.

A. Example of a house as shelter from short-range fire.

B. Example of a house to be avoided as shelter from plunging fire.

Against shell fragments, banks of earth 40 cm. in thickness, planks covered with 20 cm. of earth, and sandbags furnish excellent protection.

2. THE WAR OF POSITION

If a position is to be occupied for some time, protection against the heavy artillery must be provided. For this purpose the thickness of parapets is increased, the walls of trenches are consolidated, and the traverses are increased in number and in thickness.

The roofs of dugouts are thickened in order to resist the burst of a high-explosive shell, as follows:

Against the 77-mm., a bed of timbers from 20 to 25 cm. in diameter and 30 cm. of earth.

Against the 105-mm. and the 150-mm., two beds of timbers and two beds of earth.

Against the 210-mm., three beds of timbers 30 cm. in diameter and three beds of earth 30 cm. thick.

The beds of timbers may advantageously be replaced by a bed of railway iron and a bed of sacks of hardened cement.

The timbers and the rails should be securely fastened together. One of the beds of earth may well be replaced by a layer of stones, which gives a hard bursting surface.

3. LIAISON BETWEEN THE INFANTRY AND THE ARTILLERY

In the present war the artillery has not always given the infantry the support which the infantry had a right to expect of it.

There have been many reasons for this. Among them are the insufficient quantity of telephonic matériel furnished the artillery, the lack of precision in the regulations on the subject of *liaison,* and, finally, insufficient preparation for the cooperation of the two arms and too few maneuvers executed in time of peace.

If the artillery officer can see the terrain well, if he can distinguish clearly between the friendly and the enemy infantry, and if he is acquainted with the formations and maneuvers of the infantry, he can support his infantry under good conditions. Sight *liaison* will in such cases be sufficient for him.

But under modern battle conditions the artillery officer can seldom see the enemy infantry. If he can see them, he is nearly always in difficulty on account of the new uniforms, which make it hard to distinguish his own troops. In addition, the infantry fire and the hostile artillery fire interfere with his judgment; and the movements of the lines of skirmishers reveal to him incidents concerning which he cannot generally understand the full import.

Moreover, infantry and artillery fire has become so powerful and so intense that the use of the terrain and field fortifications has become very important. For this reason it has become necessary for the artillery to support its infantry by fire directed on a precise spot at a precise time. Only the infantry can *actually know* these conditions. Often the artillery cannot know them, and often they *cannot even suspect them.*

Such conditions require that the most intimate *liaison* possible be established between the infantry and the artillery. The problems involved are important and are not easy to solve. Artillery and infantry officers must combine all their efforts and all the means at their disposal to solve them.

It is possible to sum up the problem as follows:

Problem of Liaison.—"A body of infantry (company, battalion or regiment) receives a definite mission, either offensive or defensive. It should be supported by artillery, either by batteries or battalions (*groupes*). How can the commanding officer of this body transmit to the artillery officer two or three kilometers in the rear the information that he is stopped by hostile machine-gun or rifle fire from a hedge at a certain point?

"It is, moreover, to be supposed that the terrain between the two commanders is under infantry or shell fire and

that it is cut up by obstacles like barbed wire which are penetrable at certain points only."

Assuming that mounted orderlies or cyclists carrying messages would not be killed or wounded, the artillery commander will not receive the request from the infantry for 20 or 30 minutes after the departure of the message. During this time the situation may have changed. The artillery action requested may then be useless. Especially will this be true if, in the meantime, the infantry have taken the position occupied by the enemy. The action of the artillery will in this case be most unfortunate.

The problem is therefore complex, and no one can pretend to give a simple solution which will fit all cases.

The question is not new. It has been studied in time of peace. The solutions formerly adopted have not given good results, and it is necessary to continue to search for new solutions; and the experiences of actual war will always furnish the bases for new studies.

It can be stated with certainty that *liaison* will be assured under the following conditions:

1. When the artillery is furnished with powerful observing instruments and field glasses which make possible, under favorable conditions, the *liaison of sight*.

2. When the troops are furnished with numerous and rapid means of communication which enable them to establish easily *material liaison*.

3. When the two arms, convinced of the need for intimate and constant cooperation, have been prepared and trained by many combined exercises in order that there may be assured moral and *professional liaison*.

Liaison of Sight.—This is obtained by furnishing in ample quantities to all parts of the front powerful prism observing instruments which can be used as periscopes. Such instruments have already done excellent service.

Material Liaison.—It is necessary to develop and perfect this so that the infantry can transmit rapidly, or even instantaneously, the information necessary to bring effective fire to bear on the desired point at the desired instant.

The means of communication actually at the disposition of troops include:

Telephones.

Apparatus for optical telegraphy.

Signal Apparatus: Electric lamps, signal lanterns, and flags.

Smoke-bombs and devices to deceive the enemy.

Agents of communication on foot, mounted, on bicycles or motorcycles.

But, of all means of communication, none are perfect and none are sure.

Telephone wires are often cut in the course of action; signalling and optical telegraphing from the rear to the front are very delicate operations, and the movements of agents of communication are very doubtful under fire.

As a result, in order to have any chance for success, it is necessary to use as many means of communication as possible.

Conventional Signals.—The Morse alphabet is used in signalling apparatus and in the optical telegraph; and conventional signals are designed to increase the rapidity of transmission. The signals common to all arms are really too few to enable the infantry to designate a target or to ask for

urgent support. For this reason it is necessary:

(*a*) To establish a signal code which will complete the instructions of General Headquarters on the subject of *liaison* which were published in 1915.

(*b*) To make common various methods of designating targets.

Identification of Targets.—The designation of a target on which the infantry wishes the artillery to fire is an operation which is very simple in the war of position, but always much more difficult in the war of movement, in which it is necessary to make the designation rapidly and within certain limits of approximation over a terrain often not well known. It is for this reason necessary to have special means of designating targets and to employ very simple language in the communication between two arms.

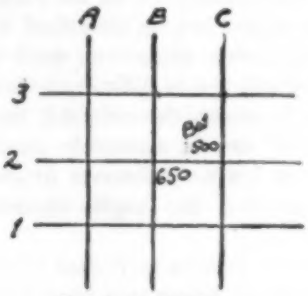
Use of Reference Points.—Reference points which are very definite and very easily identified, either on the ground or on the map, should always be selected. After this has been done it is very easy to designate the target by referring it to one of the reference points agreed upon.

Example: "Battery in a field, 500 meters north, 300 meters east of Chateau X."

Squared Maps.—It is essential that the artillery and the infantry have exact copies of such maps.

A target is identified by coordinates and by reference to the junction of two lines of the squares. The lines of the squares are usually a kilometer apart and are numbered (see Fig. 10).

If squared maps are not available, existing maps may be enlarged and the squares applied in an improvised manner. This is recommended when on the defensive, so that the most advanced lines held by friendly troops may be clearly indicated to the artillery, so that, if an attack is made, the artillery may open fire without anxiety about the possibility of killing the friendly infantry.



Bat. is located thus:
$X = B - 650$ m
$Y = 2 - 500$ m

Fig. 10.

Panoramic Sketches.—In principle a panoramic sketch assists in the designation of targets or of the places where they have been established, so that, if they are changed, the change will at once be apparent, because the country will not present the same aspect as when the sketch was made.

A panoramic sketch may be used to give a range to a battery at *B*, if the point *A*, from which the information is given, can be exactly located on the General Staff map and if the angles

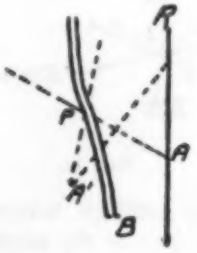


Fig. 11.

are reported as being taken from a reference point R, which can also be identified on the map.

If, in Fig. 11, the angle measured from the point A between the reference point R and the target near P is sent to the battery at B, the direction of P may be laid off on the map, and if the target can be described by its nature (such as bridge or a road crossing), it will not be difficult to identify. It can be exactly determined if the distance AP can be accurately measured or if an auxiliary observer at A can also measure the angle between P and R.

Material Liaison in Trench Warfare.—Telephonic *liaison* is at present established along the entire front. Sufficient time has elapsed to equip the troops fully with telephonic matériel.

Telephonic communication should be established as follows:

1. In the infantry, within the regiment by the telephonists of the corps.

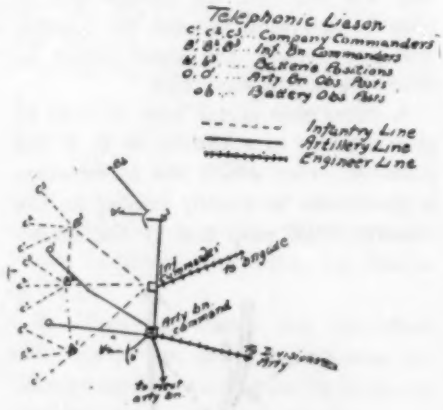


Fig. 12.

2. In the artillery, within the battalion (*groupe*) by the telephonists of the battalion.

3. Between the artillery and the infantry by the infantry telephonists.

4. Between the infantry regiments and between adjoining artillery battalions, and between the artillery battalions and the artillery higher commands, by the engineer telephonists.

Fig. 12 shows diagrammatically the scheme of telephonic *liaison*.

In some very exposed sectors, company commanders may be connected directly to the batteries who are charged with their support. Battery commanders may arrange observing stations and battery commanders' stations at a distance from their batteries. Observation stations which are much exposed should be given duplicate lines.

Repetition of Messages.—During an attack or a severe bombardment telephone lines are generally cut. It is therefore necessary to repeat the messages sent by telephone by agents of communication and by messages sent by optical telegraph.

Moral and Professional Liaison.—In order to understand one another, artillery and infantry officers should know intimately the methods and the requirements of the two arms. *They should, above all things, speak the same language.* The instructions of officers and noncommissioned officers should, *especially in the artillery,* be carried on with this end in view, and frequent combined exercises should be worked out which have for their object the perfecting of this *liaison.*

In the field, higher commanders, generals commanding armies, army corps, divisions, and detachments of all arms should keep in close touch with the artillery commanders and keep them constantly informed as to the situation and their intentions. Living

together and speaking the same language, they establish what is sometimes called the *"upper liaison."*

On the field of battle, artillery commanders who are charged with the support of a body of infantry (brigade, regiment, battalion, or company) must at once put themselves in touch with the infantry commander, either directly or by the medium of an officer of *liaison*. In every case, in addition to this special *liaison*, the ordinary means should be established and used. The orders and instructions received by both arms being understood, and the impressions and understandings between the higher and lower commands being made beyond the shadow of a doubt, the commanders concerned can come rapidly to a complete accord. This results in *professional liaison*.

One of the important factors resulting from this professional understanding is the mutual respect and comradeship which is brought about by common ideals of duty and hopes for final success and the utilization of every means for the common end. It is thus necessary, above all things, to obtain the *moral liaison*.

Ⓘ

German Raid on British Trenches[1]

PART I

110th Reserve Infantry Regiment. In the field, 6th April, 1916.

Regimental Orders for a Raid on the Spion

1. The raid will probably take place at dusk on the 11th April.

2. *Organization of the raiding party.*—

In command.—Captain Wagener, assisted by Lieutenant Boening, Assistant-Surgeon Wisser, one bugler and six stretcher bearers.

Patrol commanders.—Lieutenants Stradtmann, Freund, Dumas and Böhlefeld.

Raiding party.—50 men of the 110th Reserve Infantry Regiment and four Pioneers of the 1st Reserve Company, 13th Pioneer Battalion.

3. Upon the day fixed, *the raiding party* will be assembled in Dug-outs Nos. 1–10, on the right wing of the left-hand battalion. Dug-out No. 9 will be used as advanced regimental command post.

The assaulting party must not exceed three officers and 30 men. The remaining officers and men will be at Captain Wagener's disposal for use as supports.

Captain Wagener's Orders—Appendix 1.

Shortly after dusk the assaulting party will leave the Blaue Stellung by Sap No. 3 with the object of breaking into the enemy's position in the neighborhood of the Süd Spion, from which point the enemy's trench will be cleared northwards, if possible, as far as the Spion. Unless prevented by the enemy's fire, the raiding party will return to our Blaue Stellung by the same way.

Table of distribution of artillery fire—Appendix 2.

4. For 25 minutes before the commencement of the raid *the artillery* will prepare for the assault by shelling the enemy's trenches between Besenhecke and the Windmühle, and also the Weisse Steinmauer. During the raid the artillery will control by its fire all the enemy's trenches likely to prove a source of danger to the enterprise.

Special Orders for feint attack—Appendix 3.

5. In order to draw the fire of the enemy's artillery away from the spot to be raided, a *feint attack* against the enemy's position just north of La Boiselle Cemetery will start 15 minutes after the artillery opens fire.

Special Orders for this bombardment—Appendix 4.

6. In order that the registration of the objective by the heavy artillery and Minenwerfer shall not be apparent, on the morning of the day before the raid—probably the 10th April—a feint bombardment of Target-sectors 76–79 will be carried out, combined with a mine explosion, *with the object of misleading the enemy.* The exact

[1] Translation of a German document giving orders for a raid on the British trenches near La Boisselle, April 11, 1916, and report of the German commander on the execution of the raid.

time will be fixed beforehand by the artillery commander, Officer Commanding Ersatz Abteilung, 76th Field Artillery Regiment.

7. *The machine-gun officer* will arrange that, during the whole time of the raid, the enemy's rear trenches in Target-sectors 76–81 are kept under a constant fire, with a view to causing him all possible loss, and, at the same time, to safeguard our patrol against counter-attacks.

8. *The Officer Commanding 1st Reserve Company, 13th Pioneer Battalion*, will arrange for a gallery of the left-hand minefield to be ready charged by the morning of the day before the raid, and for a gallery of the right-hand minefield to be ready charged by the evening of the raid. The former will be sprung at the conclusion of the feint bombardment, the latter as an introduction to the feint attack.

From today, the "earth mortars" (*Erd-mörser*) will systematically cut the enemy's wire opposite the Blinddarm. On the day before the raid, they will cooperate with all other close-range weapons to assist in the feint bombardment of Target-sectors 76–78. On the evening of the raid, they will assist in the feint attack by bombarding Target-sectors 76 and 77 (*see* Appendices 3 and 4).

Throughout the raid, the "*Albrecht-mörser*," in position on the Lehmgrubenhöhe, will heavily bombard the enemy's trenches in the Nordrondell. Particular care will be taken that the enemy's machine guns do not interfere with the raid from that quarter (*see* Appendix 1).

9. *The Officer Commanding 228th Minenwerfer Company* will register the enemy's wire at the point of entry with one heavy and two medium Minenwerfer in the course of the feint bombardment on the day before the raid. He will also take part in this bombardment and fire 30 medium Minenwerfer shells at the Weisse Steinmauer (*see* Appendix 4). On the afternoon of the same day, with both medium Minenwerfer mounted in the Minenwerfer Weg, he will cut the enemy's wire at 76y, and throughout the whole night and the following day will keep up a desultory fire.

On the evening of the raid, the wire in front of the point of entry of the raiding party will be cut on a width of 50 meters by the heavy and two medium Minenwerfer (*see* Appendix 1). Meanwhile, the two other medium Minenwerfer will take part in the feint attack against 76y (*see* Appendix 3). The light Minenwerfer at the disposal of the 228th Minenwerfer Company will take part in the feint bombardment and in the feint attack, in accordance with the orders (para. 8) issued for the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion (*see* Appendices 3 and 4). The Officer Commanding 228th Minenwerfer Company will receive further detailed instructions from Captain Wagener.

10. On the evening of the raid, *battalions* will hold themselves in a state of readiness for an alarm. Arrangements will be made that, in the event of the enemy opening a barrage on our trenches, as may well happen, the number of sentries is reduced to a minimum. Gas masks and other gas equipment must be held ready for use.

11. I shall be at the regimental command post from the morning of the day before the raid. From 6 p. m. of the evening of the raid, I shall be in the advanced regimental command post in Dug-out No. 9 on the right wing of the left-hand battalion. Captain Wagener will maintain constant communication with me. The artillery liaison officer will also be with me.

(Signed) FRHR. V. VIETINGHOFF.

Distribution

110th Reserve Infantry Regiment	Headquarters	2
	3 Battalions	3
	12 Companies	12
	Labor Company	1
	1st Machine-Gun Company	1
	2nd Machine-Gun Company	2
	55th Machine-Gun Section	1
	Captain Wagener	2
29th Reserve Field Artillery Regiment		1
Ersatz Abteilung, 176th Field Artillery Regiment		1
1st Abteilung, 29th Regiment Field Artillery		1
1st Reserve Company, 13th Pioneer Battalion		1
228th Minenwerfer Company		1
Division		1
Brigade		1
109th Reserve Infantry Regiment		1
111th Reserve Infantry Regiment		1
Spare copies		5
		37

APPENDIX 1

Special Orders for the Raid on the Spion

1. *Organization of the raiding party:*

Commander.—Captain Wagener; with me, Bugler Held.

Stradtmann's patrol.—Lieutenant Stradtmann and 10 men.

Dumas' patrol.—Lieutenant Dumas and 10 men.

Böhlefeld's patrol.—Lieutenant Böhlefeld and 10 men.

Supports, at my disposal—Lieutenant Freund and 24 men.

In addition to the latter party, at my disposal.—Lieutenant Boening, and Assistant Surgeon Wisser and six stretcher bearers.

2. *Dress and equipment.*—Attack order without greatcoat or cap,

belts to be worn without pouches, gas masks to be slung and tucked into the tunic.

The Stradtmann, Dumas and Böhlefeld patrols will each be equipped, half with rifles and half with pistols and wire-cutters.

The supports will carry rifles, five men will carry pistols, each man will carry two grenades.

As a distinguishing mark, each man will wear a triangle of white linen sewn on the breast and back.

Minutes.

0′ 3. *Time table.—The artillery* will open fire with gas shells on the enemy's trenches on both sides of the point of entry and on the objectives opposite the southwest corner of La Boisselle, where the feint attack is to take place.

The time of starting will be communicated, in good time, on the day of the raid.

For a quarter of an hour, all the enemy's trenches likely to prove of importance to the raiding party will be brought under fire. At the same time, the *close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion*, with the two medium and the light Minenwerfer of the *228th Minenwerfer Company*, will fire with maximum rapidity on the enemy's trenches opposite the southwest corner of La Boisselle.

7′ The one heavy and two medium Minenwerfer of the *228th Minenwerfer Company* will open fire with the object of cutting the wire in front of the point of entry.

14′ 45″ On the right flank of the minefield a *shallow gallery will be fired.*

15′ *The artillery*, which was firing on the southwest corner of La Boiselle, will increase its range and shell the trenches in rear.

The close-range weapons will cease fire.

The machine guns will sweep communication trenches in this sector and in the Galgen.

15′ 30″ In the Blinddarm and just south of the same, isolated groups of *dummies* will be exposed in order to make the enemy think an attack is pending. From now on, *artillery and Minenwerfer* fire will increase to its maximum intensity on the real objective.

The "Albrecht-Mörser" of the *1st Reserve Company, 13th Pioneer Battalion*, in position on the Lehmgrubenhöhe, will bombard the Nordrondell with the utmost intensity.

20′ *The patrols* will leave their dug-outs and take up their positions in readiness, in accordance with direct orders received from me, in the Hohlweg by Sap No. 3.

23′ *Stradtmann's patrol* will leave the Hohlweg at "*a*" and crawl forward as far as "*b*."

Lieutenant Boening will post the *stretcher bearers* as connecting files between *Stradtmann's patrol* and myself.

25′ *The artillery* will lift its fire from the objective between Besenhecke and the Windmühle to the targets in rear, and will open a barrage on those of the enemy's trenches which may prove a source of danger to the raid.

The Minenwerfer will cease fire.

The machine guns will open fire on positions in rear and on the communication trenches which lead to the objective from both sides.

The "Albrecht-Mörser" of the 1*st Reserve Company*, 13*th Pioneer Battalion*, on the Lehmgrubenhöhe, will continue to bombard the Nordrondell.

All close-range weapons and the artillery, which from 0′ to 15′ had been bombarding the enemy's position opposite the southwest corner of La Boisselle, will reopen fire on these targets with renewed vigor.

25′ 15″ *Stradtmann's patrol* will break into the enemy trenches at the Süd Spion and, at point 1 (*see* Sketch No. 1), will defend the point of entry from the direction of the enemy.

On orders received from me personally, *Dumas' patrol* will follow Stradtmann's patrol and advance southwards along the enemy's trench as far as point 2.

On orders received from me personally also, *Böhlefeld's patrol* will follow Dumas' patrol and, once in the enemy's trench, will push on towards the Spion.

The stretcher bearers will act as connecting files between Stradtmann's patrol and myself.

The supports will hold themselves in readiness at 4, so as to be able to push on after the other patrols immediately on receipt of an order from me.

If the enemy opens a barrage on our position and on the Hohlweg before the patrols come out of their dug-outs, I will either lead the patrol to the enemy's position by another route, or cancel the raid.

4. *Duty of the patrols.*—As many of the enemy as possible must be made prisoners; in addition, rifles, machine guns, rifle grenade stands, trench mortars, etc., as well as filled packs are to be brought back. Should it be found impossible to carry back all the booty owing to the small numbers of the raiding party, but if, as far as regards the enemy's fire it could be done, report will be passed on to me by Stradtmann's patrol.

5. *Return.*—On a signal given by Lieutenant Stradtmann, or on the "Charge" being blown by my bugler, the raiding party will make their way back from the Süd Spion to the Hohlweg by the shortest way, and immediately make for the same dug-out whence they started. In the dug-outs I will ascertain whether everyone has returned. Prisoners and booty will be taken into the dug-outs.

During the raid, if the enemy should open a heavy barrage on the trenches on the Schwabenhöhe and on the Hohlweg, the raiding party will remain in the enemy's trench and acquaint me of the

fact by firing a red flare. I will then endeavor to reach the party and lead them back by some other way. Should I not arrive, the senior officer present will lead the entire party.

6. Assistant-Surgeon Wisser will organize No. 1 Dug-out as a first-aid post and will remain there until the conclusion of the raid.

7. Until the 15th minute I shall be in the advanced regimental command post; after that time, in the Hohlweg, which will be connected by telephone with the advanced regimental command post.

(Signed) WAGENER,
Captain and Company Commander.

Verbally and in writing to participants in the raid.

Copy to the regiment.

W.

APPENDIX 2

Table of Distribution of Artillery Fire

29th Reserve Field Artillery Regiment.

Fire Commander:—Officer Commanding Ersatz Abteilung, 76th Field Artillery Regiment.

Battery.	No. and type of gun.	Position.	Targets to be fired on and nature of fire.												No. of rounds.	Remarks.
			The Minenwerfer will open fire ... minutes after the Artillery, and cease fire ... minutes after the Artillery has ceased fire.													
			0 —3		—5		—7 —15		—25		—28		End.			* *See* "Remarks," paragraph 1, on page 184.
			1st period 3 minutes.		2nd period 2 minutes.		3rd period 10 minutes.		4th period 10 minutes.		5th period 3 minutes.		6th period minutes.*			
			No. of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.	No of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.		
New†	4	127/132	5	D	Same	D	Same	B	Same	B	28	B	Same	D x	Up to 50 K gas shell, 150 heavy field howitzer.	*See* "Remarks," paragraph 2, on page 184.
New†	4	216/217	6	D	"	D	"	B	"	B	29	B	"	D x	Up to 50 K gas shell, 150 heavy field howitzer.	*See* "Remarks," paragraph 2, on page 184.
3rd Bavarian Landsturm Battery.†	4	128/201	14	D	"	D	7	B	"	B	11	B	"	B	Up to 200 heavy field howitzer, including 50 K gas shell.	20 K gas shell on Ringwerk 14.
2nd Battery, 76th Field Artillery Regiment.	4	900	18	D	"	D	Same	D [x]	"	D	18*a*	D	"	D	Up to 300 field gun	18*a*—Only first class ammunition.

1st Battery, 76th Field Artillery Regiment.	4	906	22	D	"	D	"	D[x]	"	D	22*a*	B	"	Bϕ	Up to 300 field gun	22*a*—Only first class ammunition.
2nd Battery, 29th Field Artillery Regiment.	2	921	24	D	"	D	"	D[x]	"	D	Same	B	"	B	Up to 200 field gun	24—Only first class ammunition (from 4th period onwards)
Württemberg 9 cm.	2	738	1	B	"	B	"	B	1*a*	D	1	B	"	D	Up to 100 9-cm.	
Württemberg 9 cm.	2	738	1*a*	B	"	B	"	B	1*a*	D	1*a*	B	"	D	Up to 100 9-cm.	
Courcelette Section.	2	731	2	B	"	B	"	B	2*a*	D	2	B	"	D	Up to 150 field gun	
12-cm.....	2	210	14	B	Same	B	Same	B	Same	D	26	B	Same	B	Up to 60 12-cm.	
3rd Battery, 76th Field Artillery Regiment.	2	740	3	D	"	D	"	D[x]	"	D	Same	B	"	B	Up to 200 field gun	From 4th period onwards only 1st class ammunition on 3.
1st Battery, 29th Field Artillery Regiment.	4	903	....	....	8	D	"	D	"	B	"	B	"	B	Up to 200 field gun	From 4th period onwards only 1st class ammunition on 8.
659th Russian†.....	4	204	....	....	17	D	"	B	"	B	.....	.....	....	.....	Up to 80 heavy field howitzer.	
473rd Belgian†.....	4	218	....	....	20	D	"	B	"	B {	1 sec'n 17*a*	B	Same	B	Up to 80 heavy field howitzer.	
											27	B	"	Bϕ	Up to 200 heavy field howitzer (including 50 K. gas shell).	
212th†.....	2	203	....	....	23	D	"	B	"	B {	30*a*	D	"	D	} Up to 150 mortar.	
											30	D	"	D		

NOTE—For explanatory notes, *see* page 183.

† These lines were subsequently altered—*see* Appendix A, to "Report on the execution of the Raid on the Spion," on page 199. (Translator.)

APPENDIX 2—*Continued.*

Battery.	No. and type of gun.	Position.	Targets to be fired on and nature of fire.												No. of rounds.	Remarks.
			The Minenwerfer will open fire ... minutes after the Artillery, and cease fire ... minutes after the Artillery has ceased fire.													
			0 —3		—5		—7 —15		—25		—28		End.			* *See* "Remarks," paragraph 1, on page 00.
			1st period 3 minutes.		2nd period 2 minutes.		3rd period 10 minutes.		4th period 10 minutes.		5th period 3 minutes.		6th period minutes.*			
			No. of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.	No. of target.	Nature of fire.		
7th Battery, 29th Field Artillery Regiment.	2	915	.....	.....	.....	.....	19	B	Same	B	25	B	Same	Bϕ	Up to 200 light field howitzer.	
7th Battery, 29th Field Artillery Regiment.	2	915	.....	.....	.....	.....	19	D	"	B	12	B	"	Bϕ	Up to 200 light field howitzer.	
8th Battery, 26th Field Artillery Regiment.†	4	741	.....	.....	.....	.....	4	B	"	B	15	B	"	Bϕ	Up to 300 light field howitzer.	
							4*b*	B	"	B	4*a*	B	"	Bϕ	Up to 300 light field howitzer.	
3rd Battery, 76th Field Artillery Regiment.	2	739	.....	.....	.....	.....	.....	.....	16	B	Same	B	"	Bϕ	Up to 200 field gun	On 16 only 1st class ammunition.
3rd Battery, 29th Field Artillery Regiment.	2	926	.....	.....	.....	.....	.....	.....	21	D	"	B	"	Bϕ	Up to 250 field gun	On 21 only 1st class ammunition.

550th†	2 ↓	904	.....	.....	.....	.....	.....	.....	9	D	"	B	"	D x	Up to 100 9-cm.	
550th†	2 ↓	905	.....	.....	.....	.....	.....	.....	10	D	"	B	"	D x	Up to 100 9-cm.	
550th†	2 ↓	929	.....	.....	.....	.....	.....	.....	13	B	"	B	"	B	Up to 100 9-cm.	
12-cm	1 Y ↓	209	O.P. on hill 106.	D	Same	D	Same	D	Machine guns in Bécourt Wood, 31 and Hill 106.						Up to 40 12-cm.	
1st Battery, 29th Field Artillery Regiment.	2 | |	903	.....	.....	.....	.....	.....	.....	Machine guns in Bécourt Wood, and 31.						Up to 200 field gun	
3rd Battery, 29th Field Artillery Regiment.	2 | |	907	.....	.....	12a	D	Same	D	Same	B	Same	B	Same	B	Up to 200 field gun	
6th Battery, 26th Field Artillery Regiment.	4 | |	727	1b	B	Same	B	"	B	1d	B	1b 1c	B* B*	" "	B B	Up to 150 field gun	* One target for each section.

The following artillery is unallotted:

2 \| \| of the 3rd Battery, 29th Field Artillery Regiment, in 909.

2 \| \| of the 2nd Battery, 29th Field Artillery Regiment, in 928.

2 \| \| of the 2nd Battery, 29th Field Artillery Regiment, in 911.

Further, from the 5th period onwards the following can be switched on to the enemy's artillery:

1 section Y ↓ of 473rd Battery from target 27.

1 section \| \| of 8th Battery, 26th Field Artillery Regiment, from target 15.

1 section Y ↓ of new Battery from target 28.

1 section Y ↓ of 659th.

D = deliberate fire.
B = in the nature of barrage fire.
[x] = occasional barrage fire.
x = barrage fire for five minutes.
ϕ = occasional deliberate fire.

\| \| = 7.7-cm. field gun.

\| \| = 10.5-cm. light field howitzer.

↓ = 9-cm. gun.

Y ↓ = 12-cm. gun.

Y ↓ = 15-cm. heavy field howitzer.

Y ↓ = (21-cm.) mortar.

Remarks

General

(*a*) Registration will be spread over several days, and will be carried out without attracting attention. If possible, Sectors 79 and 80 will not be fired on on the day of the raid. When the individual batteries are being registered, this will always be carried out in conjunction with the registration of the other batteries in distant sectors (especially Sectors 75 and 76) on targets in the retired lines of trench; this will be done in constantly changing order, and either simultaneously or at varying intervals of time. Sectors 75–77 will be registered in such a way as to attract attention; the wire in Sector 76 (south) will also be registered.

Whenever possible, registration of the targets shown on the fire distribution table will be combined with retaliation on the enemy's trench mortars and artillery. Batteries will avoid simultaneous registration of targets.

On the day preceding the raid, *in order to distract attention from registration by the new batteries* on Targets 5 and 6 and by the (21-cm.) mortar on Target 23, a bombardment on Sectors 75 and 76, as laid down in Appendix 4, will be carried out purely as a feint. If the opportunity presents itself, this bombardment will take place during the morning in reply to the enemy's fire. The batteries concerned will, therefore, hold themselves in readiness to start registration immediately the order is given for the feint bombardment to commence, so that the former will have been practically finished by the time the latter ceases.

Should trench mortars or close-range weapons open fire from the neighborhood of Trench 79a, the (21-cm.) mortar and the heavy field howitzers will retaliate by registering on Targets 5, 6 and 23. In the latter case the feint bombardment will not be carried out.

(*b*) A liaison officer will be attached to the battalion of the 110th Reserve Infantry Regiment.

(*c*) Major von Rotteck will arrange for the allotment of observation posts and for new telephone lines.

(*d*) The enemy's observation posts will be shelled by the unallotted artillery at the discretion of Rotteck's group (Hill 106, and observation posts in front of La Boisselle).

Special Remarks on the Table of Distribution of Artillery Fire

1. The rate of fire will be so regulated that, during the 6th period, the bombardment can be maintained for about half-an-hour. For Targets 3, 16, 18a, 21, 22a, 24, 8, 12 and 27, the prescribed expenditure of ammunition may be exceeded.

2. Registration will be carried out with ordinary ammunition. At the commencement of the operation, the enemy's trenches will

be bombarded with gas shell, commencing from the rear and working up to the front line.

3. Emplacement No. 926 will be occupied by guns which are known to shoot accurately.

(Signed) JABLONSKI.

APPENDIX 3

Special Orders for the Feint Attack in Front of the Southwest Corner of La Boisselle

1. *The object* of the feint attack is to draw away the enemy's artillery fire from the real raid against the Spion.

2. From today, the artillery will conspicuously register the targets at that point and also the wire opposite the Blinddarm.

At the same time, *the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion*, will systematically destroy the enemy's wire in front of the hostile trenches north of the cemetery.

On the afternoon of the day before the raid, *two medium Minenwerfer of the 228th Minenwerfer Company* will conspicuously register the wire and the trenches at 76y, and will continue to fire isolated rounds throughout the night and the following day.

0′ 3. *Time table for the feint attack.—The artillery will open fire* on the enemy's trenches opposite the southwest corner of La Boisselle; 20 gas shells will be fired on the Ringwerk. At the same time, *the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion*, will bombard the same targets and both *medium Minenwerfer of the 228th Minenwerfer Company* will destroy the wire and trenches at 76y with as many shells as possible (*see* "b—b" on Sketch No. 3).

The rate of fire will gradually increase, reaching a maximum intensity after a quarter of an hour.

14′ 45″ A shallow gallery in the right-hand *minefield* will be fired.

15′ The *artillery* will lift their fire from 76y and a on to the trenches in the rear. The Minenwerfer and other close-range weapons will cease fire.

15′ 30″ In the Blinddarm and just south of it, separate groups of *dummy figures* will be exposed. These should present the appearance of assaulting parties leaving the trenches to charge. Dummies of different sizes will appear, then disappear, and reappear once more.

Lieutenant Bachmann will make the necessary preparations and will receive detailed instructions to that effect. The Labor Company will supply him with the necessary material.

The *machine guns* will fire on the Galgen, the trenches near the Ringwerk, and those near 76i.

19′ *The dummies disappear finally.*

25′ *Artillery and Minenwerfer* and all other *close-range weapons* open fire with maximum intensity on their old targets.

4. To avoid accidents from stones thrown up by the mine, and from splinters and shorts from our own bombardment, the *battalion on the right* will arrange that, from 0′ o'clock onwards, no men are exposed in the front line of trenches from the Blinddarm along the line of the craters as far as the Kirchstellung. The enemy's barrage fire must also be reckoned with.

5. From 10′ onwards, the *battalion on the right* will report to me constantly the direction from which they are being fired at by the enemy's artillery, and if it is thought that the enemy is really concentrating his fire on the feint attack.

(Signed) FRHR. V. VIETINGHOFF.

Copies to—
Regiment.
Lieutenant Bachmann.
1st Reserve Company, 13th Pioneer Battalion.
228th Minenwerfer Company.

APPENDIX 4

Special Orders for the Feint Bombardment to be Carried Out on the Morning of the Day before the Raid

1. *The object of this feint bombardment* is to distract the enemy's attention from the registration being carried our by the heavy field howitzer batteries which have just taken up their positions, the (21-cm.) mortar section, and the heavy and medium Minenwerfer.

2. *This bombardment will be carried out by* the artillery, the 228th Minenwerfer Company and the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion. At the same time, a mine will be sprung in the left-handed minefield.

0′ *The starting hour will be fixed in good time by the O. C. Ersatz Abteilung, 76th F. A. R., and issued by him.*

3. *Time Table.—The new heavy field howitzer batteries* and the (21-cm.) *mortar section* will begin registration.

The artillery will open slow fire on the enemy's positions opposite the southwest corner of La Boisselle and opposite the minefield as far as the Windmühle.

All close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion, will open slow fire on the targets between the Galgen and the Windmühle.

Both *medium Minenwerfer* of the 228th Minenwerfer Company on the Minenwerfer Weg, will open slow fire on the right-hand extremity of the Weisse Steinmauer. Only 30 rounds will be fired.

10′ *A gallery* will be fired in the left-hand minefield.

Artillery and Minenwerfer cease fire.

The heavy and the two other medium Minenwerfer of the 228*th Minenwerfer Company* will begin to register the wire in front of the point of entry.

20′ *All the artillery and Minenwerfer* will again open with bursts of fire, as from 0′–10′.

30′ *Cease fire.*—By this time registration will, if possible, have been concluded.

4. For table of distribution of artillery fire for this feint bombardment, *see* next page.

(Signed) FRHR. V. VIETINGHOFF.

Copies for—
Regiment.
Artillery.
1st Reserve Company, 13th Pioneer Battalion.
228th Minenwerfer Company.

APPENDIX 4—*Continued.*

Table of Distribution of Artillery Fire for the Feint Bombardment to be Carried Out on the Morning of the Day before the Raid.

Battery.	No. of, and type of gun.	Position.	1st period. 1′–10′.	2nd period. 20′–30′.	Total number of rounds.	Remarks.
			No. of target.	No. of target.		
New.....	4	127/132	5	..	No more rounds to be expended than are absolutely necessary.	For heavy field howitzer batteries and mortar to register.
New.....	4	216/217	..	6		
212th.....	2	203	23	same	Up to 30 rounds.	Firing may be continued without interruption from 1′–30′.
Württemberg 9-cm....	2	738	1*	1	30—9-cm.	* Including grenade-store.
Württemberg 9-cm....	2	738	1*a*	1*a*	30—9-cm.	
Courcelette Section....	2	731	2	2	30 field gun.	
6th Battery, 26th Field Artillery Regiment.	2	727	1*b*	1*b*	30 field gun.	
6th Battery, 26th Field Artillery Regiment.	2	727	1*d*	1*d*	30 field gun.	
658th Russian.....	2	204	14	14	20 heavy field howitzer.	
473rd Belgian.....	4	218	27†	27	40 heavy field howitzer.	† Including battalion dug-out and grenade store.
8th Battery, 26th Field Artillery Regiment.	3	741	15‡	15	30 light field howitzer.	‡ Including main store.
3rd Bavarian Landsturm Battery.	2	201	35	35	15 heavy field howitzer.	
3rd Bavarian Landsturm Battery.	2	128	33	33	15 heavy field howitzer.	
1st Battery, 76th Field Artillery Regiment.	4	906	36	36	50 field gun.	Including Minenwerfer emplacement and main store.
2nd Battery, 76th Field Artillery Regiment.	4	900	33 34	33 34	50 field gun.	
3rd Battery, 76th Field Artillery Regiment.	2	739	16	16	30 field gun.	
3rd Battery, 76th Field Artillery Regiment.	2	740	32	32	30 field gun.	

(Signed) JABLONSKI.

PART II

110th Reserve Infantry Regiment. In the field, 15th April, 1916.

Report on the Execution of the Raid on the Spion

A

1. By order of the Division, regimental orders were changed in the following respects:

(*a*) The bombardment of the Weisse Steinmauer by Minenwerfer on the morning of the day before the raid was cancelled, in order that the enemy's attention might not be drawn unnecessarily to that locality.

(*b*) An additional medium Minenwerfer was detailed to cut the wire at the point of entry, making altogether one heavy and three medium Minenwerfer detailed for this purpose; consequently, apart from the close-range weapons of the pioneers and the light Minenwerfer of the 228th Minenwerfer Company, only one medium Minenwerfer cooperated in the feint.

(*c*) Stradtmann's patrol was instructed not to leave the Hohlweg at the 23rd minute, but to wait for the conclusion of the intense bombardment in order to avoid, at all costs, unnecessary losses from the splinters of our own shell.

2. An increase in the amount of "K" gas shell available and the arrival of "T" gas shell led to changes in the "number of rounds" in Appendix 2. Furthermore, a reduction in the amount of (21-cm.) mortar ammunition available led to alterations in the corresponding figures of Appendices 2 and 4.

B

3. The registration of the batteries already in position began on the 5th April and, as arranged, was concluded by the 9th.

On the evening of the 8th, one light and one heavy battery of the 29th Reserve Field Artillery Regiment bombarded the enemy's wire in front of 76y for 45 minutes, in order to allay any possible suspicion aroused in the enemy in spite of the precautions observed.

4. During the night of the 8/9th April one (21-cm.) mortar, and on the night of the 9/10th two 4-gun heavy field howitzer batteries and the 1st Battery, 29th Regiment, took up the positions indicated by the artillery commander.

5. The heavy, the four medium and the five light Minenwerfer of the 228th Minenwerfer Company took up their allotted positions by night between the 3rd and 7th April.

The 1st Reserve Company, 13th Pioneer Battalion, installed two "Albrecht-Mörser" on the Lehmgrubenhöhe for bombarding the Nordrondell.

6. On the 9th April the Commander of the 1st Reserve Company, 13th Pioneer Battalion, decided that, apart from the mine included in the project of the raid, it would very shortly be necessary to fire another mine, seeing that the enemy was working only a few yards away from the head of the gallery. It was arranged to combine the latter with the feint bombardment to be carried out on the morning of the 10th April. As, however, the enemy always showed most activity in his gallery between 6 and 8 a. m., the mine was to be fired during these two hours under all circumstances, with a view to causing him the greatest possible number

of casualties. On account of the mist, the feint bombardment to be carried out in conjunction with the registration of the newly installed batteries could only commence at 11.15 a. m.

The mine was fired at 7.43 a. m., after the presence of the enemy's miners had been definitely ascertained by means of the microphone. The effect of the mine was extraordinarily powerful below ground; a new crater, however, was not formed, for the mine chamber was 105 feet below the surface. Immediately after the explosion, our field artillery and close-range weapons bombarded the enemy's trenches in that neighbourhood. At 8.05 a. m. all our close-range weapons opened another burst of fire.

C

7. The feint bombardment came in consequence as a further surprise to the enemy.

From 9.00–10.15 a. m. the heavy and the three medium Minenwerfer registered the point of entry and considerably damaged the wire, firing in all eight heavy and 28 medium Minenwerfer shell. Apparently one medium Minenwerfer shell penetrated a dug-out from which cries were heard.

8. At 11.15 a. m. the artillery feint bombardment commenced in accordance with "*Orders for a raid on the Spion.*" It was carried out as prearranged. This alone caused the enemy an appreciable number of casualties according to the statements of prisoners (*see* Appendix; Examination of Englishmen. Z. D. 14).[1]

A new crater, about 66 feet in diameter, was formed by the explosion of the mine Z on the left flank of the minefield. The heavy Minenwerfer and the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion, took part in the feint bombardment to the extent of a few rounds.

The five light Minenwerfer had registered on the enemy's trenches behind the craters from 9.30–10.30 a. m., and fired 261 rounds during the feint bombardment.

9. From 3.10–5.25 p. m. on the afternoon of the 10th April, the four medium Minenwerfer registered at intervals, with 22 rounds on the enemy's trenches and wire at 76y.

10. The enemy replied to the feint bombardment by shelling our trenches in La Boisselle and towards Pozières, while a section of heavy caliber howitzers (8-inch) shelled the neighborhood of the battalion command post in La Boisselle.

D

11. On the morning of the 11th April, it was decided to commence the operation at 8 o'clock that evening. Watches were compared afresh at 7 p. m.

Owing to the change in the weather, the error of the day, for the artillery, was considerable; it has to be worked out by individual batteries and allowed for. Further, the first 5 minutes after opening fire had to be devoted to correcting by deliberate ranging.

12. The whole operation, as far as concerns the infantry, and also the artillery and pioneers, was carried out entirely as prearranged. During the whole period, the enemy's artillery was in complete uncertainty as to our point of entry. At

[1] No copy of this Appendix was captured.—Translator.

about 8.06 p. m. the enemy's artillery opened a feeble and aimless fire, and for a while shelled the English front line trenches in Sector 77. The feint drew their fire to the neighborhood of the Blinddarm, and until shortly before 8.50 p. m. not a single shell fell in the neighborhood of Sap No. 3.

Only at 8.47 p. m. did the enemy begin to sweep from Bécourt valley towards Besenhecke with 4.7-inch shrapnel; at 8.51 p. m. the first of the enemy's shells fell near our front line trench east of Sap No. 3.

13. Consequently, the feint met with entire success, and throughout the entire raid drew almost the whole of the enemy's artillery fire and the fire of several machine guns (*see* "Report on the feint on the evening of the 11th April, 1916," page 194).

14. The course of events with the raiding party may be followed in Captain Wagener's report on the raid (*see* page 195).,

15. The fire for effect of the Minenwerfer on the point of entry, with 14 heavy and 70 medium Minenwerfer shell, destroyed the enemy's wire so completely on a width of 44 yards that on breaking into the enemy's trench the raiding party did not notice when they crossed the wire entanglement.

16. The effect of our artillery fire on the enemy's personnel and trenches was quite remarkable. Indeed, from the start the gas clouds from the "T" and "K" gas shell, of which the grouping was perfect, were blown back over our lines by the strong west wind, so that all sentries and machine-gun look-outs were obliged to wear masks. That the gas completely confused and paralysed the enemy was apparent from the condition of prisoners immediately after their capture, and from the fighting in the enemy's position. The gas had even such an effect on our own men that the commander and one man of the 1st patrol, on leaving the trenches, were violently sick, and another man fell down overcome by sudden gas poisoning. However, the latter was on his legs again in a couple of minutes and could not be prevented from hurrying after his patrol.

That the resistance offered by the enemy in the sector occupied by No. 1 Platoon should have been greater than that met with in the sector held by No. 3 Platoon, depended, in the opinion of the regiment, not only on the fact that the commander of No. 1 Platoon showed conspicuous smartness and bravery in encouraging his men to hold out, but that, owing to the line curving back somewhat, only a small proportion of gas shell actually fell in the trench.

17. As his batteries became free after the artillery preparation of the raid, the artillery commander switched them on to those of the enemy's batteries which appeared to him of most importance: 703, 767, 724, 713, 714, 702 and 707.

On the part of the enemy, four heavy and 10 field batteries were actually engaged.

18. On the whole, the expenditure of ammunition was as laid down in the "Tables of Distribution of Artillery Fire" for the feint bombardment and for the raid itself.

The total expenditure amounted to:

3,543 field gun.
829 light field howitzer.
540 9-cm. (gun).

30 10-cm. (gun).
110 12-cm. (gun).
984 heavy field howitzer (including 200 "K" and 178 "T" gas shell).
25 21-cm. (mortar).

According to the estimate of the 29th Reserve Field Artillery Regiment, the enemy fired a total of about 1,500 rounds.

E

19. The result of the raid may be gathered from Captain Wagener's report (*see* page 195), and from the confirmatory report of Lieutenant Boening.

The following were captured:

Twenty-four unwounded and five wounded Englishmen. In addition, one Lewis machine gun, one rifle with telescopic sights and 20 ordinary rifles, as well as a large number of steel helmets, belts with ammunition pouches, packs, haversacks and gas helmets.

Our casualties are:

One man, slightly wounded in the forehead by a hand grenade splinter, who was bandaged in the advanced dressing station and immediately rejoined the raiding party. All other injuries sustained by Dumas' patrol in the course of the fighting are quite negligible and cannot be considered as wounds.

F

Deductions

20. The Regiment of Royal Irish Rifles created a most favorable impression, both as regards the physique of the men and their mode of repelling an assault. But for the effect of gas shell, it would not have been possible to clear the section of trench held by one entire company and the flank of the company on its left, so thoroughly that not an Englishman remained alive in the trench.

Consequently, the regiment attaches the greatest importance to a bombardment with gas shell, but considers it necessary that the enemy should, at the same time, be shelled with H. E. shell in addition in the event of strong bodies of troops not being available for the subsequent assault.

In an operation like that of the evening of the 11th, which was to be carried out with the lowest effectives possible, it was essential that the enemy should have already suffered appreciable losses from our artillery, so that the patrols were not confronted by strong compact detachments but only by isolated groups, whose *morale* had suffered by the sight of their dead and severely wounded comrades round them.

21. The artillery was most successful in mastering the flanking defenses, but the regiment considers that the more gas shell are employed the easier this too will be.

22. The present experience shows that there is no risk of endangering one's own position and one's own raiding party, for the wind could not be more unfavorable than it was in this case. In the most unfavorable circumstances, the raiding party would have to advance close up to the enemy's trench, wearing gas masks, and remove them when on the point of breaking in. In any case an attack with gas masks on would appear to be scarcely feasible. However well the masks are fitted

and however thoroughly the men are practiced, the mask hinders a general survey, and makes it impossible to pick up one's bearings, which the patrol commander must do of necessity. In addition it overstrains the lungs, which are already severely tried by running and by the impression caused by passing events.

23. If the enemy's front line trench has been successfully cleared on a width of 150–200 yards, as in the present case, and if the enemy has not, up to that moment, opened a barrage on the point of exit, then in the opinion of the regiment a further advance into the enemy's second-line trenches offers no great difficulty. It is only necessary for fresh assaulting parties to be launched and for the necessary arrangements with the artillery to be made in good time.

In the opinion of the patrol commanders, no further obstacle would have been encountered had fresh patrols advanced in and parallel to the communication trenches, and cleared out the Weisse Steinmauer position.

The regiment is also of opinion that, without a doubt, a further inroad into the enemy's third trench and into his last positions in the Labyrinth could have been achieved with inconsiderable loss.

24. After the raid, Lieutenant Boening, one of the participants, acting under regimental orders, examined the English prisoners on prearranged points and brought to light many details of especial importance to the regiment. For this reason, the regiment considers it desirable that, in all cases, prisoners should be examined by officers with personal knowledge of what is of importance for the regiment to know, and that the majority of prisoners should only be taken away after this examination.

(Signed) FRHR. V. VIETINGHOFF,
Colonel and Regimental Commander.

Distribution

28th Reserve Division	1
56th Reserve Infantry Brigade	1
29th Reserve Field Artillery Regiment	1
Ersatz Abteilung, 76th Field Artillery Regiment	1
I Abteilung, 29th Reserve Field Artillery Regiment	1
109th Reserve Infantry Regiment	1
111th Reserve Infantry Regiment	1
1st Reserve Company, 13th Pioneer Battalion	1
228th Minenwerfer Company	1
110th Reserve Infantry Regiment—	
Headquarters	2
3 Battalions	3
12 Companies	12
Labor Company	1
1st Machine-Gun Company	1
2nd Machine-Gun Company	1
55th Machine-Gun Section	1
Captain Wagener	2
Reserve	5
	37

110th Reserve Infantry Regiment. In the field, 15th April, 1916.

Report on the Feint on the Evening of the 11th April, 1916

1. The feint fulfilled its object in every way.

2. From the 5th April onwards, the artillery repeatedly shelled the trenches and wire at 76y. In particular, on the evening of the 8th April, the wire at 76y was shelled continuously for 45 minutes by the heavy and light artillery. In the same way, the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion, kept up daily a deliberate bombardment with "Erdmörser" and Minenwerfer on the whole extent of the wire between La Boisselle cemetery and the Galgen. A machine gun, posted every night in the Blinddarm, prevented the enemy from repairing the wire.

On the 10th April, from 3.10 to 5.25 p. m., a medium Minenwerfer of the 228th Minenwerfer Company registered on the wire and the position at 76y with 22 rounds, so that by this time the wire there had been in great measure destroyed.

3. On the 4th April, I posted the dummies, which had been previously prepared, in the Blinddarm and between the Blinddarm and the southwest corner of La Boisselle. The dummies were arranged in three groups, which were fastened on to laths, operated by strings leading to dug-outs, thus ensuring the safety of the men operating them, even in the event of the heaviest enemy fire.

4. On the evening of the 11th April, the artillery opened fire at 8 p. m. as arranged, supported by the close-range weapons of the 1st Reserve Company, 13th Pioneer Battalion, and by one medium Minenwerfer of the 228th Minenwerfer Company.

At 8.14½ p. m. the mine "A" was fired at the right extremity of the minefield. A column of flame shot up to an extraordinary height and stones of appreciable size were scattered to a distance of 330 yards. The crater formed is quite shallow, but has a diameter of 50 feet.

Whereas at 8.06 p. m. the enemy's artillery was already aimlessly shelling the English front line trenches in Sector 77 and then the trenches in the southwest corner of La Boisselle, immediately after the explosion it concentrated on the positions adjoining the mine and on the Blinddarm. At this moment the heavy artillery opened on the Blinddarm, the majority of the shells being blind.

At 8.15 p. m. our artillery ceased their intense bombardment of the English front line trenches; 30 seconds later I gave the order for the dummies to be exposed above the parapet of the Blinddarm. The dummies between the Blinddarm and the southwest corner of La Boisselle could only be hoisted a few minutes later, because they were partly covered with stones from the mine explosion. Immediately the dummies appeared, a brisk fire was opened by two of the enemy's machine guns, one in the neighborhood of the Scheere and the other near the Galgen. The machine gun in the Galgen fired less on the Blinddarm itself than on the depression in front of the enemy's wire.

A few minutes later the dummies disappeared, but on reappearing were greeted afresh with intense fire. Five dummies were hit by bullets from rifles or machine guns, nearly all were more or less knocked about by shell fire or fragments of stone; one was torn off the lath by a shell.

At 8.25 p. m., when our artillery and Minenwerfer again opened a terrific fire on the enemy's trenches, the enemy's machine guns immediately ceased fire, while the artillery continued firing until about 9 p. m.

The expenditure of ammunition by the close-range weapons was as follows:

Lanz Minenwerfer	204 rounds.
Erdmörser	26 rounds.
Albrecht Morser	57 rounds.
1 Medium Minenwerfer of 228th Minenwerfer Company	48 rounds.
5 Light Minenwerfer of 228th Minenwerfer Company	474 rounds.

5. I am under the impression that the enemy was completely deceived by the feint attack.

(Signed) BACHMANN,
2nd Lieutenant.

In the field, 12th April, 1916.

Captain Wagener's Report on the Raid on the Evening of 11th April, 1916

At 4 p. m. the raiding party marched from Martinpuich through Pozières, then by the Lattorf Graben—Regimentstrichter—Krebs Graben to the Appointed dug-outs on the left of Sap. No. 3, where the evening meal was found ready prepared.

At 8 p. m. the artillery preparation commenced as prearranged. Shortly after fire was opened, the whole of the enemy's position from Windmühle to Besenhecke was wrapped in greyish-white smoke, which the wind drove back over Sap No. 3 into our lines.

By 8.10 p. m. it was impossible to remain in our trench east of Sap No. 3 without wearing a gas mask. This was still the case at 8.20 p. m., when the patrols moved forward from their dug-outs to the Hohlweg, in the order Stradtmann, Dumas, Böhlefeld and Freund. Lieutenant Boening followed close behind Lieutenant Stradtmann.

By 8.25 p. m. the party was posted ready in the Hohlweg. The clouds of gas and smoke, however, still hung so thick over the enemy's trenches that it was impossible to distinguish whether our own shells were still falling on the point of entry or whether our artillery had already lengthened their range.

At 8.27 p. m. Lieutenant Stradtmann received the order to advance to the attack with his patrol. Lieutenant Boening, with the six stretcher bearers, left the Hohlweg simultaneously and in rear of Stradtmann's patrol, and posted connecting files, whose positions were marked by red signal lamps shaded to the front and to the sides.

At 8.28 p. m. Dumas' and Böhlefeld's patrols advanced. Following the line of connecting files, they reached the point of entry, to find that Stradtmann's patrol was already in possession of 16 yards of trench, and had captured three prisoners. The latter had come out of their dug-outs just as Lieutenant Stradtmann appeared in front of the enemy's trench. They carried hand grenades and rifles with bayonets fixed, but were immediately disarmed by Lieutenants Boening and Stradtmann.

Dumas' patrol immediately turned to the left down the trench, and, in a few

steps, came upon a half-destroyed machine-gun emplacement. Reservist Nadolny, of Stradtmann's patrol, was already occupied in digging out the buried machine gun. Lieutenant Dumas penetrated further along the enemy's trench, and soon reached the communication trench which runs, roughly, along the dividing line between Target Sectors 79 and 80, towards the Weisse Steinmauer. At this point a large dug-out had been wrecked, apparently by a direct hit. Lieutenant Dumas had previously sent three men of his patrol along behind the enemy's trench; they reached the communication trench about 11 yards behind the front line trench. A few Englishmen, who came out of this communication trench, endeavored to reach the parados of the front line trench, whence they evidently intended to defend it. They were, however, surprised by our three men and bayoneted.

Meanwhile, Lieutenant Dumas, with the rest of his men, forced his way further along the trench, and just north of Besenhecke reached the communication trench which leads to the brown prolongation of the Weisse Steinmauer (white stone wall). They passed another wrecked dug-out, in which dead bodies were seen. Adjoining the above-mentioned communication trench, another large dug-out was found, which the patrol intended to clear. As, however, a number of Englishmen advanced upon Dumas' patrol from the communication trench and alongside it, a mêlée ensued with grenades, rifles and pistols, in the course of which the enemy, after suffering evident loss, either retreated or surrendered, while none of Dumas' patrol received wounds of any account.

Meanwhile, Lieutenant Böhlefeld advanced along the enemy's trench to the right of the point of entry, and, in a few yards, came to three large dug-outs, of which one was wrecked and full of dead and wounded. At his summons, the enemy came out of the others and surrendered without more ado. Lieutenant Böhlefeld sent back the prisoners and asked for reinforcements in order to clear the dug-outs, undertaking, meanwhile, to hold the enemy's trench with two men.

At 8.30 p. m., as no noise came from the point of entry, or from the right of the same, while from a point some 65 yards to the left shots and reports of grenades could be heard, I ordered Vice Sergeant Major Elb to advance with five men and reinforce Dumas' patrol. Lieutenant Erb, the regimental adjutant, attached himself to this party. He was wearing an oxygen-breathing apparatus and had been waiting in the Hohlweg. Shortly after, the sounds of fighting ceased on the left, and the first batch of prisoners was brought back from the enemy's trench. I had come to the conclusion that we had the upper hand everywhere, especially on the right, and with a view to exploiting fully our success, I ordered Lieutenant Freund to cross the enemy's trench at the point of entry with 15 men of the supports, and to attack the Spion from the rear. At the same time, I sent forward Vice-Sergeant Major Wölfle with 4 men to reinforce Lieutenant Böhlefeld.

In order to have a reserve in hand for meeting all eventualities, I ordered up the commanders of the two groups on the flank of the 12th Company, which was stationed immediately to the right of Sap No. 3. The groups had been warned in the afternoon and given the necessary instructions. Whilst Vice-Sergeant Majors Elb and Wölfle, with their men, went in search of Dumas' and Böhlefeld's patrols, Lieutenant Freund dashed across the enemy's trench at the point of entry and

followed it along to the right as far as the communication trench which leads into the front line trench near the Spion. Freund's patrol leapt into the enemy's front line trench on both sides of the communication trench, captured 10 men almost without a struggle, and secured several rifles and articles of equipment. A few Englishmen who offered resistance were bayoneted; Volunteer Herrmann, of the 7th Company, and Lance Corporal Haufler, of the 4th Company, particularly distinguished themselves. A few Englishmen attempted to get away, but were shot dead.

Volunteer Herrmann further discovered an extemporized trench mortar. The latter could not be carried off, however, as it was securely built in. Vice Sergeant Major Wölfle, who arrived on the scene shortly after, destroyed the trench mortar as well as he could with hand grenades and pistol shots.

Böhlefeld's reinforced patrol had accompanied the advance of Freund's patrol along the trench, and came across three or four more wrecked dug-outs, which were filled with dead. Individuals standing about in the trench were killed by the patrol or made prisoner. During this affair, Under Officer Nössler, of the 11th Company, repeatedly distinguished himself.

Whilst our party was breaking into the enemy's trenches or perhaps even before, a party of the enemy, approximately 25 to 30 strong, succeeded in getting away from the front line trench and making their way back to the Weisse Steinmauer, but were again driven back by our artillery fire, and now came running towards Stradtmann's patrol. The latter, apprehending a counter-attack, opened fire. Ersatz Reservist Walzer, of the 11th Company, followed by Under Officer Staiger, of the 10th Company and others, raised a cheer and charged the Englishmen, bayoneting two of them. Those who did not put up their hands and surrender, were killed.

Lieutenant Erb had soon caught up Dumas' patrol and took part in the subsequent fighting, which was practically continuous, for almost every one of the enemy offered resistance. With hand grenade and pistol, Dumas' patrol killed more than 20 of the enemy, besides wounding a large number. In this fighting Volunteer Hees, of the 6th Company, particularly distinguished himself. Always to the fore, he alone accounted for several Englishmen. On our side only one man was slightly wounded.

In consequence of the events described above, Dumas' patrol remained in the enemy's trench considerably longer than intended. When all the other patrols had returned to the Hohlweg, the Dumas-Erb patrol was still missing.

Hereupon, Lieutenants Boening and Stradtmann, with several noncommissioned officers and men, went back to the enemy's lines and searched the trench to the left until they met the Dumas-Erb patrol on its way back. Here again Under Officer Nössler, of the 11th Company, 110th Reserve Infantry Regiment, distinguished himself.

At 8.50 p. m., the last men of the entire party had returned to the Hohlweg and went back to their dug-outs.

At 8.51 p. m., the first shell fell on the front line trenches east of Sap No. 3.

At 8.57 p. m., the artillery commander was informed that the artillery fire could be gradually broken off.

At 9. p. m., a heavy battery near Albert dropped a few shells near Sap No. 3.

At 9.05 p. m., the conclusion of the operation was reported.

The following were captured: 24 unwounded and 5 wounded prisoners, 1 Lewis gun, 1 rifle with telescopic sights, 20 ordinary rifles, and a large number of steel helmets, belts with ammunition pouches, packs, haversacks, and gas helmets.

Our casualties consisted of one man slightly wounded in the forehead by a splinter from a hand grenade. He was bandaged in the advanced dressing-station and immediately returned to the patrol.

(Signed) WAGENER,
Captain and Company Commander.

40 copies, as appendices to the Report of the 110th Reserve Infantry Regiment on the raid of the 11th April, 1916.

APPENDIX A

Corrections to the Tables of Distribution of Artillery Fire

(*See* Appendices 2 and 4 of the "Orders for the Raid on the Spion" by the 110th Reserve Infantry Regiment, 6th April, 1916.)

Corrections to table in Appendix 2:

½ 1st and ½ 2nd Battery, 52nd Foot Artillery Regiment	4	127/132	5	D	Same	D	Same	B	Same	B	28	B	Same	D x	Up to 100 K gas shell, 150 heavy field howitzer.	*See* "Remarks," paragraph 2. Section Commander Oswald.
5th and 8th Batteries, 6th Foot Artillery Regiment	4	261/217	6	D	Same	D	Same	B	Same	B	29	B	Same	D x	100 K gas shell, 150 heavy field howitzer.	*See* "Remarks," paragraph 2. Section Commander Leister.
3rd Bavarian Landsturm Battery.	4	128/201	14	D	Same	D	7	B	Same	B	11	B	Same	B	100 heavy field howitzer, 100 T gas shell.	Including 20 T for the Ringwerk No. 14 and 25 T for counter-battery work.
659th Russian.....	4	204	.....	.....	17 and 20	D	Same	B	Same	B	1 section, 17*a*	B	Same	B	130 heavy field howitzer.	Including counter-battery work.
473rd Belgian.....	4	218	.....	.....	20 and 17	D	Same	B	Same	B	27	B	Same	Bϕ	Up to 100 heavy field howitzer, 125 T gas shell.	Including counter-battery work. Including 50 T for counter-battery work.

APPENDIX A—*Continued*

Corrections to the Tables of Distribution of Artillery Fire

(*See* Appendices 2 and 4 of the "Orders for the Raid on the Spion" by the 110th Reserve Infantry Regiment, 6th April, 1916.)

Corrections to table in Appendix 2:

212th	2	203	.....	....	23	D	Same	B	Same	B	30*a*	D	Same	D	25 (21-cm.) mortar.	
8th Battery, 26th Field Artillery Regiment.	4	741	.....	.....	.....	....	4 4*b*	B B	Same Same	B B	15 4*a*	B B	Some Same	Bϕ Bϕ	Up to 270 light field howitzer.	
550th	2	904	.....	.....	.....	.....	.....	.....	9	D	Same	B	Same	Dx	Up to 85—9-cm.	
550th	2	905	.....	.....	.....	.....	.....	.....	10	D	Same	B	Same	Dx	Up to 70—9-cm.	
550th	2	929	.....	.....	.....	.....	.....	.....	13	B	Same	B	Same	B	Up to 85—9-cm.	

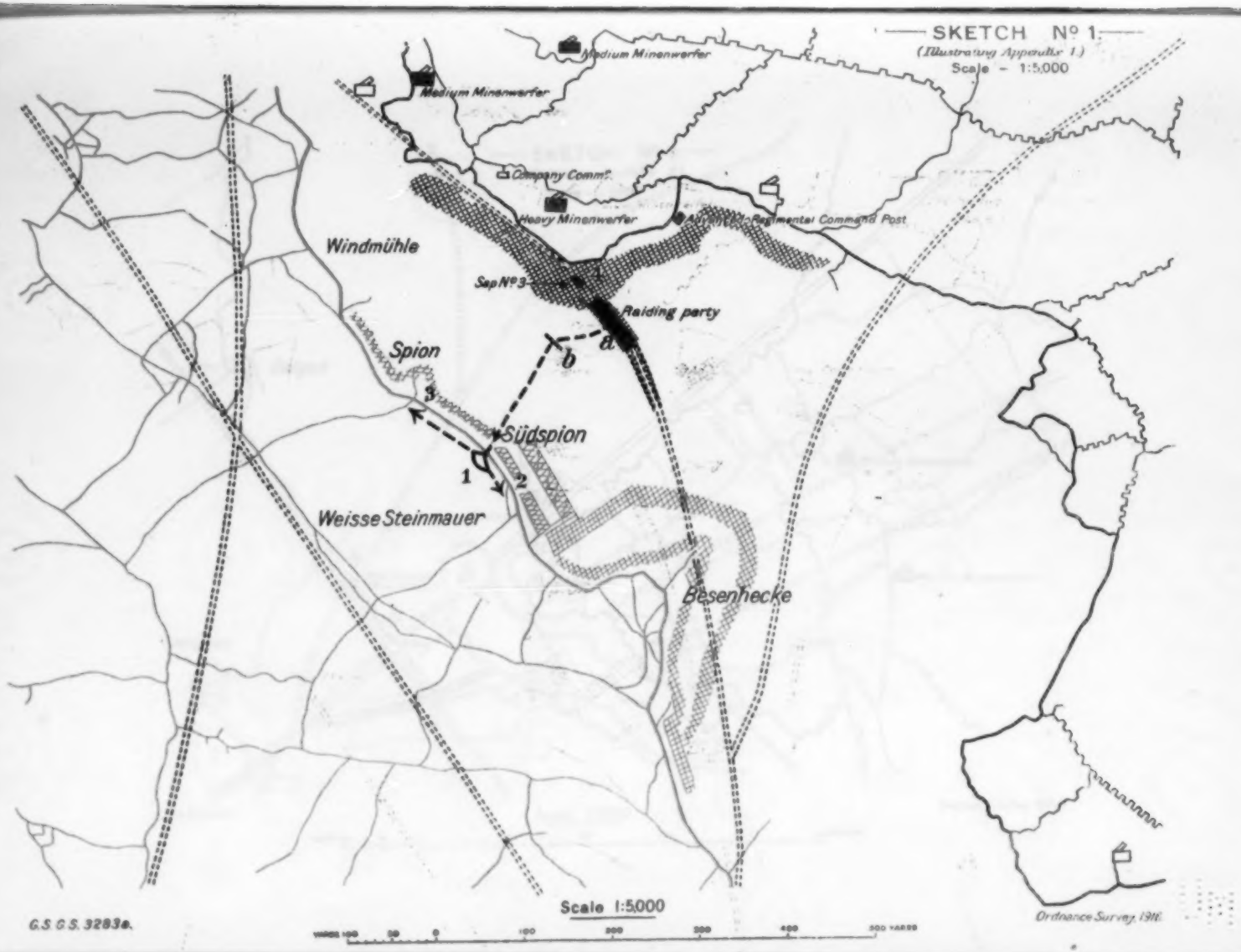
REMARKS.

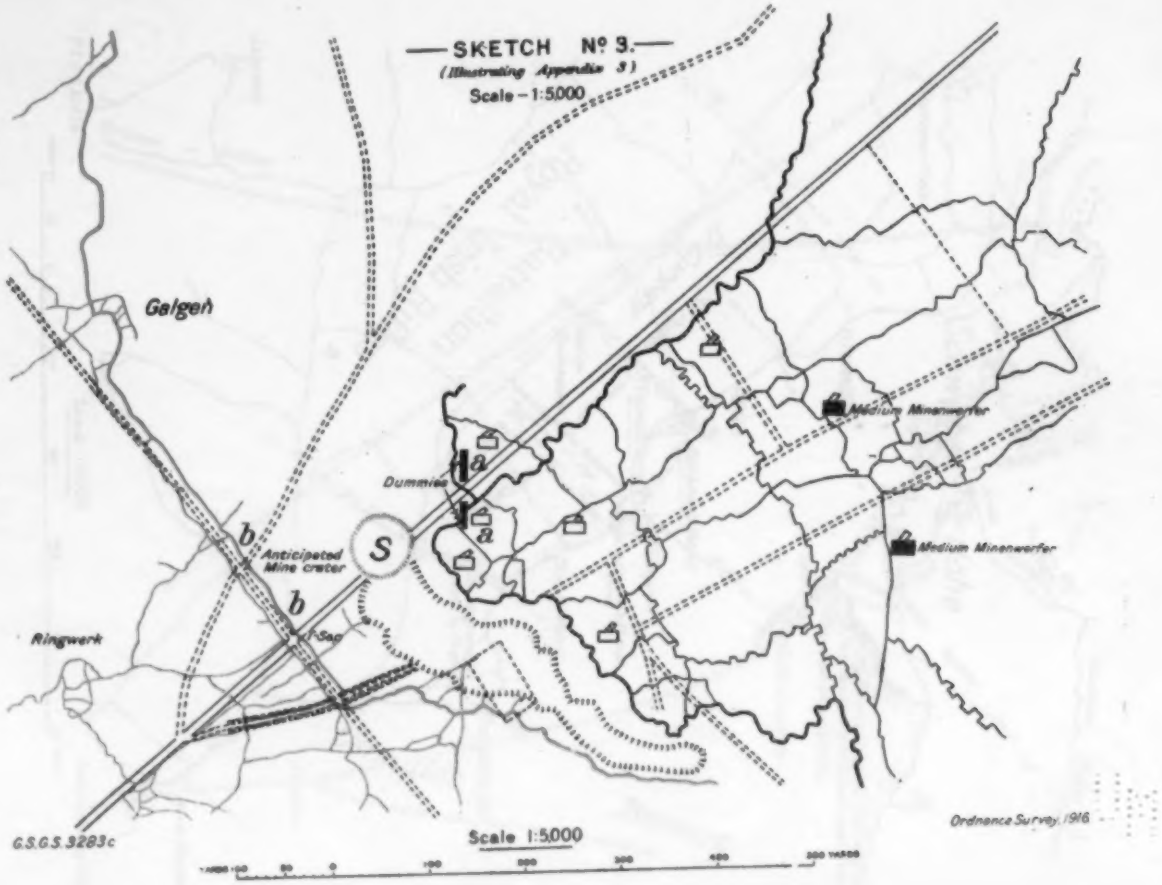
4. Rounds required for purposes of registration are included in these figures, but not those requires for the feint bombardment or in Appendix 1.
5. Another 750 rounds of field-gun ammunition are available as a reserve and for counter-battery work.
6. 50 K gas shell for the 3rd Bavarian Landsturm Battery for Sector 7, and 50 K gas shell for the 473rd Belgian Battery for Sectors 20 and 17, will be held in readiness and only fired in the event of the wind proving unfavorable for T gas.

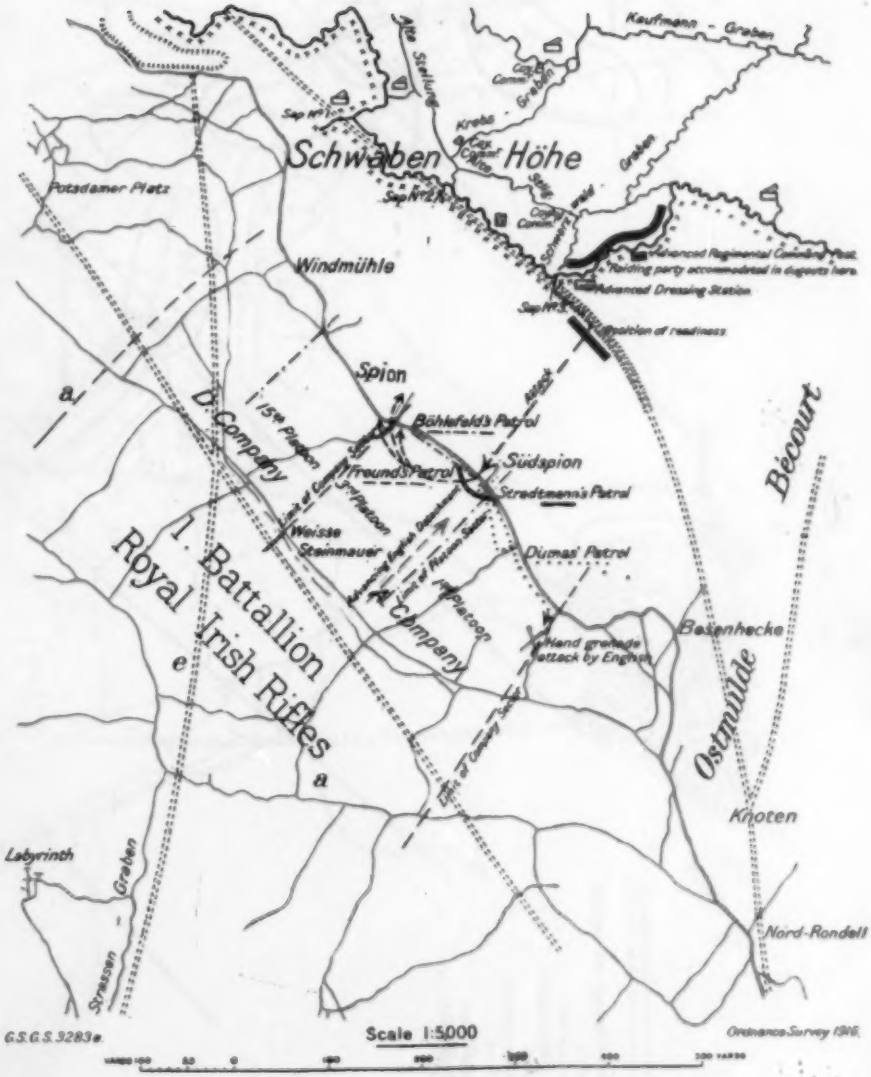
Correction to table in Appendix 4:

212	2	203	23	Same	.....	Firing may be carried out from the 1st to the 30th minute. The 212th (21-cm.) Mortar Section will register on 23 with a few rounds.

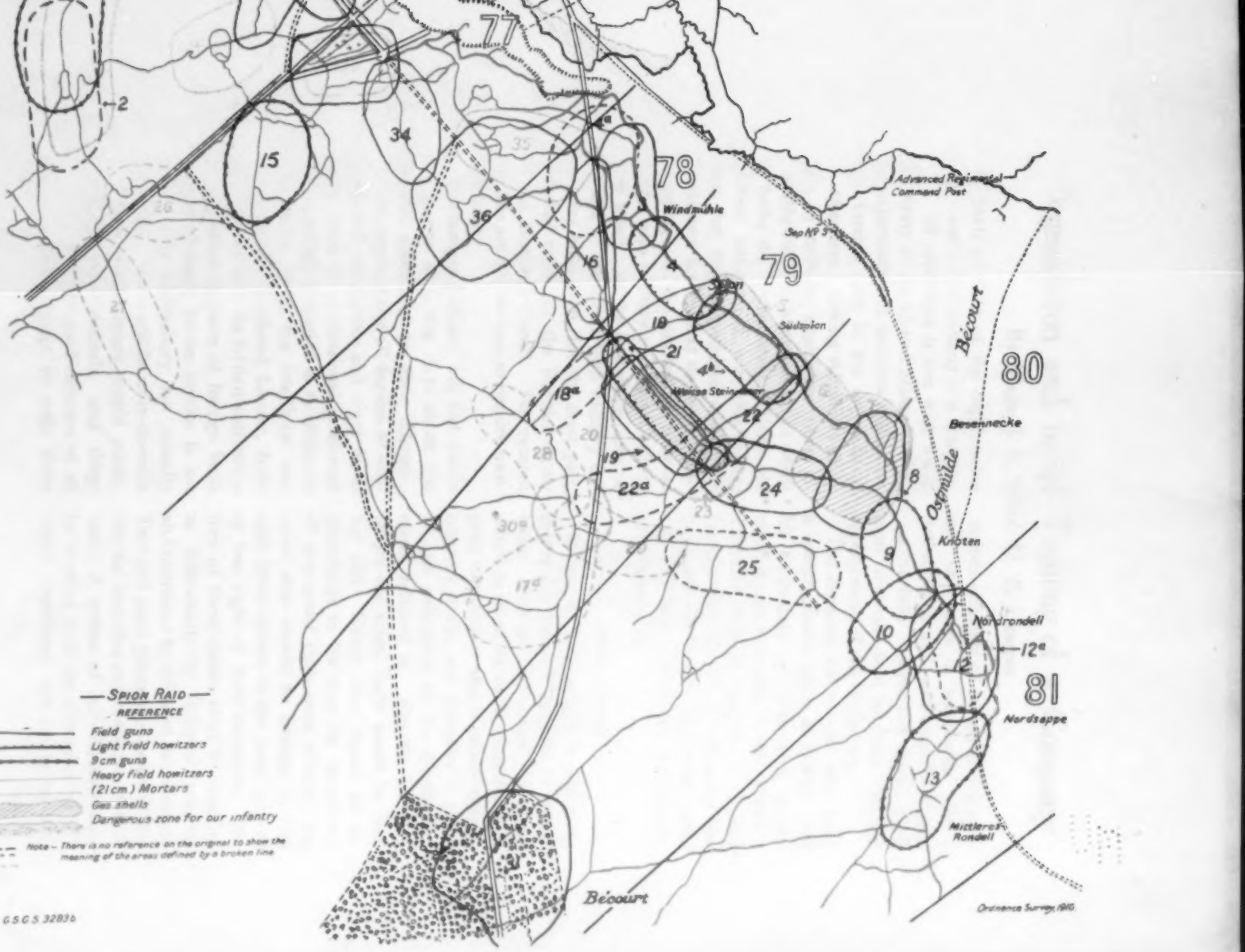
SKETCH Nº 1.


SKETCH Nº 1.
(Illustrating Appendix 1)
Scale - 1:5,000
Medium Minenwerfer
Medium Minenwerfer
Company Comm.
Heavy Minenwerfer
Windmühle
Sap Nº 3
Raiding party
Spion
Südspion
Weisse Steinmauer
Besenhecke
a
b
1
2
3
Scale 1:5,000
G.S.G.S. 3283a.
Ordnance Survey, 1918.


SKETCH Nº 3.
(Illustrating Appendix 5)
Scale – 1:5,000
Galgen
Dummies
Anticipated Mine crater
S
a
a
b
b
Sap
Ringwerk
Medium Minenwerfer
Medium Minenwerfer
G.S.G.S. 3283c
Scale 1:5,000
Ordnance Survey 1916


Kaufmann - Graben
Alte Stellung
Schwaben Höhe
Potsdamer Platz
Windmühle
Advanced Regimental Aid Post
Holding party accommodated in dugouts here
Advanced Dressing Station
Station of readiness
Spion
Böhlefeld's Patrol
Südspion
Freund's Patrol
Stredtmann's Patrol
Dumas' Patrol
D. Company
15th Platoon
Weisse Steinmauer
1. Battalion Royal Irish Rifles
A Company
Besenhecke
Hand grenade attack by English
Ostmilde
Becourt
Knoten
Nord-Rondell
Labyrinth
Graben
Scale 1:5000
G.S.G.S. 3283a
Ordnance Survey 1916

— SKETCH Nº 2.—
(Illustrating Appendix 2.)
Scale 1:5000
Limits of Regt Sector
75
76
77
Bagen
Belgon
1a
1b
1c
1d
1
2
3Z


77
78
79
80
81
Windmühle
Advanced Regimental Command Post
Sap No 9
Südspion
Bécourt
Besennecke
Ostmulde
Knoten
Nordrondell
Nordsappe
Mittleres Rondell
Bécourt
Ordnance Survey 1916
—SPION RAID—
REFERENCE
Field guns
Light field howitzers
9 cm guns
Heavy field howitzers
(21 cm.) Mortars
Gas shells
Dangerous zone for our infantry
Note – There is no reference on the original to show the meaning of the areas defined by a broken line
G.S.G.S. 3283b

Organization and Initial Training of a Company

By Major J. C. Wise, U. S. Reserve

THE problem of the organization and initial training of a company of conscripts is one with which the Army of the United States has had no experience. It involves many factors foreign even to the organization of volunteers. Among volunteers many men of military experience were invariably found as a nucleus about which to build the organization. Many old soldiers volunteered with the assurance that their experience would win preferment for them at the outset. The percentage of the drafted or national troops with military experience will be very small. In the first place, men of the age of the draft with military experience have been, for the most part, absorbed either by the Regular Army or the National Guard. The reasons for this are too obvious to require mention here.

The company officers will find within the course of a few days about 150 recruits committed to their charge—recruits representing all degrees of education and intelligence and every social caste, from the professional gentleman with a college education to the illiterate city loafer, from the intelligent mechanic to the untutored laborer, from men imbued with the loftiest sentiments of patriotism to those of foreign birth and attachments whose service is not only legally compulsory but actually compelled. There will be ne'er-do-wells of the luxurious classes, stupid yokels, criminals, near-criminals, and thugs mixed in with the good elements of all classes. Any attempt to weld these various elements of society into a military unit, save in accordance with a preconceived and well-considered plan—a carefully thought out system—will most assuredly lead to delay and disappointment, if not to disaster.

The company commander must have a comprehensive plan, so definite that his lieutenants can thoroughly understand it and cooperate in its execution. That plan must take cognizance of many factors, of which the following are the two most important: (1) Social caste; (2) individual character, intelligence, and experience.

SOCIAL CASTE

It may be well enough in theory to ignore this factor or to deny its importance. The political orator can better afford to do so, however, than the company commander who is called upon to organize, train, and discipline a group of men embracing all the diverse elements referred to. For the latter to ignore the actual facts would be fatal for him. Never once should he acknowledge to his men the superiority of one social class over another, but never once should he attempt to deal with those classes in the same manner or lose sight of their existence. The men of these classes must be appealed to individually by different rewards and restrained by different punishments. Tact and good judgment alone will dictate the incentive and corrective in each case. A system of individualism must be resorted to if the diverse social elements mentioned are to be quickly

blended into a military unit, and it must be constantly borne in mind that the recruits of a drafted company have been selected by no standards save those of age and physique, and that to fix an arbitrary standard of conduct and expect all to meet its requirements might be too exacting at the start for some and too lax for others if the best results are to be obtained, if each man's capabilities are to be utilized to the fullest extent.

The system of individualism suggested does not prefer one class over another. It merely embodies the idea of developing each to the fullest extent. Work must be fairly and equitably apportioned, but it can be equitably apportioned in an intelligent way.

So, too, it would be fatal to overlook conduct on the part of a recruit of class "A" which conduct would be beneath his dignity in social life, and equally fatal to demand as much of a recruit of class "C" as is expected of the former. In other words, no man's character and habits should be allowed to deteriorate and no man should be expected to rise above his potential capabilities. If the character of the better element is preserved, it will exert an uplifting tendency upon the men of the lower stratum. Here let me say that I am not preaching aristocracy in any form—merely the maintenance of the better elements of character as they come to us. I am not advocating a social caste system in the ranks, but the utilization of existing conditions in the bringing of military order out of social chaos.

You ask me for a specific instance as an illustration of my meaning, and one readily presents itself to my mind. Let us assume that two recruits are reported for a joint offense—one an educated youth accustomed to refined surroundings, the other less favored by fortune. In correcting them for their joint misconduct it is eminently practical to remind the former of, and impress upon him, the obligation on his part to set the latter an example. And so the recruits of breeding and superior social advantages should always be held to a higher degree of moral responsibility for their conduct in quarters, in the mess hall, as to personal appearance, bodily cleanliness, language, etc.; for it is after them that the lower elements will surely pattern in all things. They should be sternly reproved for any attempt at the social belittlement of the latter, appealed to in every way to fraternize with and encourage their less fortunate fellows, and should never be allowed to degrade themselves because of the necessary existing common military standard. The fact that a common military standard exists does not mean that the personal conduct of recruit "A" and recruit "C" should be judged and dealt with in the same way.

The problem of social caste presents itself in the ranks of the regular establishment, but in an infinitely less complex form than it will appear in the National Army, where a carefully planned system for dealing with it will be necessary if it is to be solved. In the one case it appears as a mere incident; in the other it will comprise a fundamental issue in the disciplining and training of the troops. In the former recruits are more or less gradually absorbed into an existing organization with its fixed standards, customs, and traditions. It is not so difficult to conform them to those standards, etc., when they are gradually absorbed. In the National Army the entire organiza-

tion will have to be created *de novo*, and though the military standard will be prescribed, there will be no familiar customs and traditions for the guidance of the officers and men.

While the men of all classes should be encouraged to fraternize by thoroughly mixing them in squads, in quarters, and at mess, they should be prevented from congregating in caste groups. Every artifice will have to be resorted to in order to overcome this natural and inevitable tendency of men of congenial nature. It can best be accomplished through those of the better classes whose sense of obligation and democratic spirit must be appealed to and developed. Unless this is done, there will be several organizations working at cross purposes. Little unity will exist from the first, and the utmost discord will soon arise. A system of thorough mixing will preserve the essential democracy of the company and at the same time enable labor to be equitably apportioned among the men without regard to their social character. The captain must assume and retain charge of this important matter.

INDIVIDUAL CHARACTER, INTELLIGENCE, AND EXPERIENCE

The sudden influx of 150 recruits, ignorant for the most part of every military form and rule, will naturally be most confusing to the company commander, who must rely almost entirely upon his lieutenant for assistance. But he must not lose his head and become impatient with men because they do not comport themselves as well-instructed soldiers. These men cannot be treated as soldiers until he converts them into soldiers.

The officers should remember the importance of first impressions, and that the impression they create upon the minds of their men at the outset or during those first critical hours of their military career will never be effaced, whether for good or evil. If it be a good impression, they will have gained a tremendous advantage; if it be a bad one, they may overcome but they will never efface it.

How should the captain proceed at the very outset? First, let him examine every recruit as soon as possible after assignment as to their previous vocation and military experience. A brief examination will enable him to roughly classify his men as to appearance, education, intellect, and character in one of the following categories:

a. Superior.—Business and professional men, tradesmen, skilled mechanics.

b. Ordinary.—Uneducated but intelligent laborers and miscellaneous recruits of average appearance and bearing.

c. Inferior.—Recruits of the lower order of intelligence and character.

The fact that the captain and other officers carry out the foregoing classification and keep a record of their men according to their capacities will give them a grasp upon the individuals of their company that they could not acquire by random methods. It will enable the officers to discuss their estimates and reconcile their views as to each man and form a definite basis of comparison. Needless to say, the record should be strictly confidential among the officers. This initial examination of the men is the psychological contact that enables the calm, dignified, methodical, firm officer to gain an immediate ascendancy over his men. During

that examination the officer should be careful not to treat the recruits as so many human cattle. Let him take time to impress each man with the idea that he is an individual known to his captain, and not a mere human digit whose identity is lost. Lost identity means a loss of that sense of individual responsibility which the good soldier must possess. Above all, let the officers be calm among the seeming confusion that will everywhere reign during those first few days. The recruits will quickly perceive that the apparent disorder, so different from what they are accustomed to, is, after all, but superficial, and will unconsciously come to look to their officers as their leaders in fact as well as in name. On the other hand, if the officers become confused and excited and manifest a lack of grasp of the situation, the men will acquire no confidence in them, and bewilderment will take the place of that implicit trust in their officers which is essential.

Men with previous military experience will, as a rule, be properly assignable to class "A," and seldom to class "C." At any rate, it will be to class "A" that the captain should look for his temporary squad leaders. There will be few companies which will not include at least several men capable of being intrusted temporarily with the duties of a sergeant.

The services of those men who have had military experience can be utilized in some way at once. Some of these men will be capable but untrustworthy, intelligent but unreliable. If such be the case, they can be used as drill masters under supervision, but not intrusted with other responsibilities. So, too, many men in class "A" will turn out to be less reliable than some in class "B" and class "C," and some of the unintelligent men will prove highly reliable, while some of class "A" will prove inapt as soldiers through lack of character and inclination, and many with few educational advantages will make fine soldiers.

Men of foreign birth will be found in all the classes enumerated. They will present a problem in themselves. They must not be placed in the same category because of foreign origin and must be given every opportunity to win preferment.

Foremen, contractors, engineers, surveyors, etc., will prove peculiarly well qualified to handle men, and therefore suitable material for noncommissioned officers.

The classification hereinbefore suggested should be recorded for frequent reference, and changes therein freely made as subsequent information comes to light. Not many initial errors will be made if the captain is careful and uses good judgment in his initial examination of the recruits. The most important point to observe in making the classification is to be chary of rating men in class "A," and then too much of those so rated will not be expected, whereas every subsequent accession to that class will come as a pleasing gain.

SELECTION, PREPARATION, AND TRAINING OF NONCOMMISSIONED OFFICERS

The men selected as temporary acting noncommissioned officers should be informed in a firm but kindly manner that they are on rigid trial; all others that the selections are only temporary, and that every man has a chance to demonstrate his fitness for a chevron. If the number of men available for temporary duty as acting noncommis-

sioned officers is in excess of the number needed, frequent changes should be made, with compliments to those who did well while on trial and assurances that their success had been noted.

All squad leaders and other temporary acting noncommissioned officers should be provided as soon as possible with the Manual for Noncommissioned Officers, and it would be well to place a copy in the hands of each member of class "A." As soon as possible after reporting, the recruits should be assembled in platoon or squad groups, according to the number of intelligent instructors, and be instructed in the care of their equipment, the arrangement of quarters, the manner of addressing their officers, saluting, and the first few pages of the Infantry Drill Regulations and Army Regulations. Much of this can be done within the first twenty-four hours.

The lieutenants, and even the captain, must be prepared to act for a while as drill sergeants. If the number of drill masters from the ranks is small, it would be far better to have frequent short drill periods at the start, with relays of recruits comprising the squad than larger squads for longer periods. In this way the few drill masters available will be able to break in all the men in the fundamentals more rapidly.

The men of apparent superior intelligence and character—class "A," which will probably comprise much less than a quarter of the company, say, twenty-five men—should be placed in separate squads or groups, or double squad groups, and advanced according to progress. By this means, those selected for temporary acting noncommissioned officers will be trained apart from their less apt fellows, and the tendency will be for them to gain a certain prestige thereby. The hope of advancement to these groups will also inspire the other recruits. Instant advancement should be made when justifiable, so that the men will see that their conscientious efforts will be promptly rewarded. It might even be well purposely to scatter a few of the better men among the lower groups, so that selection can follow upon the first few drills.

If the men selected for temporary acting noncommissioned officers are intelligent and ambitious, they will rapidly acquire a military knowledge superior to that of the other recruits in order to measure up to their responsibilities. A few who will demonstrate their superiority beyond a doubt can be appointed in a very short time, but there should be no haste in making a final selection. It is better to let a man demonstrate his own merit to his fellows than to subject him to the risk of being reduced—better for his captain and for the man himself. If noncommissioned officers are appointed too quickly, many good privates may be spoiled. The overhasty appointment of a noncommissioned officer and his subsequent reduction only serve to impair his credit among the men, before whom he is stamped as a failure.

THE OFFICERS

The absolute necessity of dignified, calm deportment on the part of the officers, the importance of their personal appearance, bearing, and manners cannot be gone into here. Suffice it to say that they will be under the constant and critical scrutiny of many inferiors of their own order of intelligence They cannot hope to "put over" any-

thing without being exposed. They must master every detail of their duties. Carelessness, undignified conduct, slackness, loose language, ignorance—all these things will be readily detected by the men in the ranks, and the reputation of the officers will suffer accordingly. The officer who does not "deliver the goods" will simply be placed on the inactive list, and his colonel will be the final arbiter of his fitness.

It will surprise the young officers how soon a portion of the company will work into the collar, provided they themselves buckle down to work and remain at their task. Certainly no thought of recreation or nightly amusements away from the men should interfere with the work of the company officers for the first few weeks. During that initial period there will be no rest for them and no lack of opportunity for profitable and interesting work. The captain and lieutenants must always be on hand, and must arrange, even during rest periods, to be easily accessible to men desiring instruction and information. They must not belittle an ignorant recruit or embarrass him when he asks what appears to be a silly question. The recruit should be encouraged to think and reason things out by the answers given his queries. This will require extreme patience, not always easy, but always encumbent upon the officers, who should ever bear in mind that they are teachers as well as superiors. Intelligence, whether by word or deed, on the part of the men should never go unnoticed or unrewarded by comment. Stupidity and ignorance are different things. The former should be rebuked when clearly distinguishable from the latter, while ignorance should never be rebuked, but should always be patiently and carefully corrected when time permits. Each man must be regarded as a problem for the officers to study. Excessive enthusiasm and callous indifference, unflinching determination and whining, pride and willful neglect, straightforwardness and deceit, frankness and low cunning, nobility of character and the lowest forms of meanness, quick wit and gross stupidity, ignorance in all of its forms, bickering, jealousy, caste prejudice, and even cruelty will be found in various forms and degrees. To observe, note, and work patiently, studiously, and systematically with the human putty in their hands and to mold from this plastic material an efficient body of soldiers is a labor which should be as inspiring to those responsible for the results as it will prove difficult and exacting, but withal as broadening and beneficial to him who grasps his opportunities and dedicates his mind, his body, and his soul to the task as it will prove laborious.

Let us now assume that the recruits have been uniformed, equipped, and assigned to squads and quarters, each squad temporarily provided with an intelligent, ambitious, and energetic acting leader whose prestige has been increased somewhat by his selection for separate training, and even more by the superior knowledge he has rapidly acquired.

The structure must henceforth rise upon these embryo leaders. From them will be reflected the energy and enthusiasm of the captain. The structure will not rise of its own accord. The captain must cement each brick, else they will be loosely laid one upon the other, and new beginnings, with loss of time and many discouragements to the men, will result. Every night the

captain should meet his lieutenants and carefully apportion the work for the next day, even when it is prescribed by schedule. Every probable conflict should be anticipated and a way thought out in advance to avoid it. Above all, the captain should avoid complaints and suppress them whenever they come to his notice. If conflicting orders come to him, as they inevitably will do, he should keep his troubles to himself. His officers and noncommissioned officers should not be allowed to kick and complain. Belly-aching, above all things, is destructive of cooperation, and should not be tolerated. When the captain sees a good man falling into this careless and bad habit he should call him aside and seek to remedy the fault by admonition; not allow the fault to grow to the point where punishment is necessary or remedy is impossible. He should never criticize the mistakes of one of his officers except privately; never rebuke a noncommissioned officer before his men, or laugh or sneer at any man. Sarcasm may be amusing at times, but it is fatal.

An officer or noncommissioned officer who makes mistakes in the conscientious discharge of his duty must be corrected and not punished or ridiculed. There is no harm in a mistake. It is the cause and the motive therefor which fixes the fault, if fault there be. If these simple suggestions be observed, cooperation, good will, and company pride will result among the officers and noncommissioned officers, and from them the company will derive its real character.

The captain may well apportion the paper work, necessary daily inspections and drill duties among his lieutenants, supervising them in a general way, but there are certain functions that he should not delegate even to them. He must personally take charge of the company mess, the latrines, the bathing facilities, and the quarters, and be unremitting in his efforts to make them models in all respects. His personal interest in these matters, so closely related to the comfort and welfare of his men, will impress them with their importance and show the men that their welfare is foremost in his mind. Furthermore, the captain must personally coordinate all work in his company in order to avoid unnecessary interruptions of the men's rest and a duplication of labor that results from several heads. These is nothing more destructive of rest and content than unnecessary roll calls and assemblies and unsystematized labor.

VOCATIONAL INDEX

As soon as possible after the assignment of the recruits, the captain should compile a vocational index of his men, similar to the one here given. One only need glance over this index to appreciate its immense value to a company commander, upon whom is imposed the necessity of utilizing the various services of men scarcely known to him by sight. Professional men, bankers, insurance men, teachers, brokers, tradesmen, clerks, accountants, actuaries, etc., might all be indexed under the one heading of *Clerical*.

Accountants, actuaries, actors, artisans, artists, bankers, bakers, brokers, blacksmiths, basketmakers, boilermakers, butchers, carpenters, carriage builders, cattlemen, clerks, cobblers, contractors, cooks, dentists, ditchers, doctors, draftsmen, electricians, engi-

neers civil, engineers mechanical, engineers locomotive, farmers, fishermen, founders, glaziers, grocerymen, horsemen, insurance agents, laborers, lawyers, linemen, lumbermen, masons, mechanics, metal workers, musicians, plasterers, plumbers, pressmen, printers, railway employes, reporters, roofers, sailors, steamfitters, stenographers, tailors, teachers, teamsters, telegraphers, tentmakers, tinsmiths, tradesmen, upholsterers, waiters, watchmakers, weavers, welldiggers, wireworkers, woodworkers.

The skill of the men of the National Army along many lines will be far greater and more varied than was found in the old army, by reason of the fact that the drafted men will come from every walk of life. The percentage of floaters and unskilled workers will be much smaller than in the old army. This fact will enable an energetic captain to provide many comforts and amusements for his company through the utilization of the skill of its members. Excellent clerks, cooks, tailors, mechanics, musicians, and craftsmen, ordinarily so scarce in the ranks, will be plentiful. The ingenuity of these men can be encouraged to advantage. It will only be necessary for the captain to refer to his vocational index to find some man capable, through experience, of performing almost any task about the company.

HINTS FOR SELF-TRAINING OF THE MEN

We now come to the initial stage of training. It is not my purpose here to infringe upon the training schedules and orders that will be prescribed by superior authority, but only to suggest means by which they can be supplemented by encouraging the individual efforts and interest of the men themselves. The schedule of training will no doubt fix the character of the work from day to day, but no schedule can determine the quality of the training given. That is a matter wholly dependent upon the intelligence and energy of the captain.

The captain should ever have in mind the discipline of his men as soldiers, the development of their powers as a collective fighting unit, and their physical and mental welfare. These elements of efficiency are so closely interrelated that the one goes hand in hand with the others. A company of infantry must be able to march, entrench, shoot, and fight with the bayonet. It can do none of these without physical fitness. Physical fitness will insure marching capacity and results from carefully regulated drill and exercise, and not from over-exertion. A physical strain only serves to impair future ability and does not prepare a man to withstand hardship. The demands of self-protection will insure entrenching ability if properly directed. Good shooting is a matter of discipline and instruction, and collective fire and fire control, which are much more important than individual expertness, are matters of collective training. But bayonet fighting is a matter not only of instruction and guidance, but is peculiarly one of individual, physical prowess which the man himself must acquire. Fortunately, the conscript will be ignorant of the old parade ground drill methods of bayonet work. He will not have to be divorced from that erroneous system. The captain, therefore, will have a splendid opportunity to start him in right with the bayonet as soon as he receives his musket, and to impress upon his mind the

fundamental conception of the unloaded rifle with the bayonet attached as a spear in his hands with which the primitive man that is in him must overcome his enemy. He must be shown that he alone can defend himself in a bayonet fight. This must be done before he ever fires a cartridge or sees the rifle range. Every recruit should be made a spearsman, with no shield but his musket and his two good arms. Every bayonet drill should partake of the nature of a competitive contest, with encouragement for the soldier to display his dexterity and physical prowess. The fencing idea has never appealed to the Anglo-Saxon, who does not like foils and parrying. He should, therefore, be taught to use his bodily strength in connection with his spear so as to keep constantly in his mind the idea of overbearing his antagonist with a rush and a thrust, a lunge or a jab, and in the event of a miss with his spear to utilize the heel of the weapon as a club. This method of attack is more in accord with the nature of the American soldier than the finesse of the old bayonet system, and far more practical in trench fighting. By imparting the principles of spear fighting before musketry practice is taken up, the use of the bayonet is caused to assume in the soldier's mind a primary place. Under the old system of working with the bayonet as an auxiliary weapon, bayonet fighting came to be considered as of secondary importance in the training of the foot-soldier and in the mind of the soldier himself. Bayonet drill was a mere exercise, and a dreadful bore to officers and men alike. The meaning of Suvaroff, the great Russian general, who declared that "the bayonet alone has sense," has been entirely lost sight of.

In addition to the methods of bayonet training which are now being so well demonstrated by Captain Briggs, U. S. Army, and which to some extent have been set forth in a War Departpartment pamphlet, the following interesting exercise is suggested:

Erect a dummy soldier, well padded, on a rocker base, so constructed as to tilt well over when struck, and to recover. Attach an oak arm or a gas pipe, well wrapped, representing a musket, held across the body in such manner that it may be spun from the rear and parry any blow delivered on the torso of the dummy. The arm should revolve in a vertical plane and be long enough to cover the head and thighs, and should be mounted on a rod passing through the body of the dummy, so arranged that it can be revolved by a lever and cord from the rear. To the fixed base on which the rocker base is mounted, cords should be attached so that the dummy can be suddenly drawn to the right, left, or rear a short distance as the soldier rushes upon it. The revolution of the heavy arm and the sudden shifting of the dummy will develop both speed and accuracy in delivering the attack, and until these are developed many laughs will occur at the soldier's expense.

Variations in the exercise with the bayonet will suggest themselves to any officer really interested in bayonet work. Every expedient should be resorted to in order to maintain the interest of the men and to prevent their bayonet exercise from deterioriating into mere routine drill movements. The dodging dummy, or "Fritz," as he will invariably be called, should remain in the company street, convenient to the

use of the men, who will maintain him in an excellent state of repair.

Another important feature that can be encouraged by competitive contests is grenade throwing. Every foot-soldier can be rendered fairly expert in hurling grenades by encouraging him to substitute grenade throwing during recreation periods for throwing quoits. All that is needed is a supply of dummy grenades and a few yards of hasty entrenchments with dummy soldiers as a target, placed near the end of the company street. A barrel of grenades, like "Fritz," should always be convenient. The use of rifle grenades can be simulated with spring guns of a power approximating that of the customary rifle charge. By compressing the spring different amounts the range may be varied. A touch of realism may be added to grenade throwing practice by providing the dummy grenades with a chamber in which an ordinary fire cracker, ignited from punk in the soldier's left hand, may be inserted. The use of fire crackers of low charge is not dangerous, but induces speed in tossing the granade. The point of impact and not the point of explosion determines the accuracy of the throw, inasmuch as fire crackers are not timed to the range and may explode in the air. A little practice will enable the average soldier to strike a rain barrel or an entrenched dummy with a hand grenade at 30 or 40 yards with surprising frequency.

In the British service the specially trained grenadiers receive ten days' instruction at the grenade school, and much of the instruction given them can be had by the men in their company streets.

The company mechanic or other artisans in the organization can readily prepare a case with front rest and rear elevating device in which an ordinary rifle may be laid, thus simulating a Lewis gun at drill. Clips instead of belts may be used during drill. Company drill in the new order of wave attack can be made much more interesting and instructive by the use of dummy hand grenades with fire cracker charges, spring guns with dummy rifle grenades, and automatic guns constructed as above than it is without these devices. In each company a fair proportion of the men will become expert with the bayonet, hand and rifle grenades, and it will be from these that the voltigeurs and grenadiers will be drawn.

As a general rule, every drill should be made as realistic as possible, and the imagination of the men should not be called upon more than absolutely necessary. It should always be remembered that a large proportion of men are unable to visualize things that do not exist. In other words, they have poor imaginations. To overcome this difficulty a blackboard should be freely used in the company street. Its use will frequently disclose to a recruit at once what he could not grasp from words, and faults at drill can often be easily corrected by indicating them with chalk. The use of colored chalk for representing grass, trees, water, hills, troops of the different arms, positions to be attacked, routes to be followed, etc., will often fix in the soldier's mind what repeated explanation by word of mouth has failed to do. An officer need not be an artist to accomplish good results with the graphical method of instruction.

Varied Ground

Quarters for Army Officers' Families

Nothing of more merit in the way of a claim to congressional consideration has been produced by the exigencies of this war than that embodied in the proposition offered by Senator Watson as an amendment to the bill (S. 1786) which contemplates important changes in the existing act of June 3, 1916. The caluse provides—

that in time of war every commissioned officer of the Army on active duty, with or without troops, who has a wife, child, or parent wholly dependent on him for support and designated by him as his beneficiary, shall be furnished at the place where he maintains such dependent the number of rooms now prescribed by the Act of March 2, 1917, or be paid commutation therefor at the rate now authorized by law.

. . . . . .

This, however, should not discourage the War Department from doing what it can to relieve the desperate condition in which so many officers are certain to find themselves by virtue of assignment to duty in the field which will be the status on nearly every member of the commissioned personnel. All officers who have been on duty in Texas and whose families have not had the good fortune to live in quarters at army posts have been put to overwhelming personal expense. The fact that some of the officers have been relieved of this duty while others have incurred it has created an invidious distinction that is unjust. For a long time officers have—and for a still longer time, interminably one might say from present indications, officers will have—field service that deprives them of quarters or the allowance of quarters. The days of temporary tours of duty in the field are probably over; certainly the Army is not destined to return to a normal condition for several years. During the protracted period of duty in Texas, and now, during an indefinite period of duty in Europe, officers are certain to sustain long separations from their families. They encounter the effect of a reduction in pay and their condition is, in all respects, the legitimate and worthy object of congressional action in which departmental apprehension of cost should not present insuperable obstacles.—*Army and Navy Register.*

Senator Watson introduced in the Senate, on July 7, an amendment to the bill (S. 1786) to amend certain sections of the National Defense Act, reading as follows:

That in time of war every commissioned officer of the Army on active duty, with or without troops, who has a wife, child, or parent wholly dependent on him for support and designated by him as his beneficiary, shall be furnished at the place where he maintains such dependent the number of rooms now prescribed by the Act of March 2, 1907 (34th Statutes, page 1168), or be paid commutation therefor at the rate now authorized by law.

Coincident with this in the *Infantry Journal* for July there is an editorial on "How to Maintain Our Families," which touches, in part, on the injustice that Senator Watson's amendment is concerned with. The *Infantry Journal* points out that:

The practical reduction of officers' pay by the expedient of keeping them detached from their so-called permanent stations for periods of years, and in not providing the authorized allowance of quarters in kind where they can keep their families near them, is one of the greatest hardships married officers endure.

It is known, of course, that since 1912 married line officers on "temporary" duty on the Mexican border either have had to live apart from their families or else have been forced to rent living apartments near their posts at exorbitant prices, and in view of the increased cost of living within that period the added tax on the officers' incomes has been a very heavy one that has been on a rising scale during the whole period.

According to the Act of March 2, 1917, commutation for quarters "may be paid by the Pay Department to the officer entitled to the same at a rate not exceding $12 a month per room" at places where there are no public quarters. By the provisions of the Military Laws of the U. S. (Par. 672)—

officers temporarily absent on duty in the field shall not lose their right to quarters or commutation thereof, at their permanent station while so temporarily absent.

Senator Watson's amendment does not concern itself with the enlisted man in this connection, but the *Infantry Journal* shows that the U. S. Army Regulations (Par. 1307½) provide that—

an enlisted man man on duty at a place where there are no public quarters available may, when specifically authorized by the Secretary of War, be paid commutation of quarters at the rate of $15 per month in lieu of hiring quarters for him at government expense.

It must be an oversight on the part of Senator Watson not to have included the enlisted man in his amendment.

Since the law is so plain in this matter we fail to see how the authorities can overlook any longer the matter of making necessary allowance to officers who are on "temporary" duty for quarters that will approximate the comforts and conveniences of those provided them at their home stations. As the matter has stood for the past five years every married line officer on so-called temporary duty along the Mexican border who wished to have his wife and children with him has been put to an expense for an apartment or residence that clearly was not intended by the law. If we are mistaken in our interpretation of the intent of the law, then Senator Watson's amendment cannot be passed too quickly, although we would suggest, with the *Infantry Journal*, that the enlisted man be included in its scope. Duty on the border was practically that of a "time of war," so such duty would well come within the provisions of this new amendment. The great point to be insisted on is this: neither in peace nor in war should such an unintentional injustice as this matter of unallowed commutation for quarters persist.—*Army and Navy Journal.*

The Cost of Army Uniforms

Congress will shortly be asked to inquire into the conditions which have resulted in the almost prohibitive cost of army officers' equipments.

When a man enlists, he does so with the knowledge that his uniforms will be furnished from his clothing allowance, and recently regulations have been put into effect which do away

with a fixed allowance and permit a man to draw what he needs when he needs it. This, under field conditions, is as it should be.

It is regrettable that some such arrangement has not been perfected for the relief of the commissioned officer. To issue to each officer an entire equipment without charge is naturally out of the question. Yet garments of government manufacture could be supplied him at a slight increase over cost, and a very real hardship eliminated.

Those familiar with the outlay necessary to equip a newly commissioned officer declare that the bare essentials of an outfit at existing prices amount nearly to $300.

The *Army and Navy Journal,* in commenting recently upon "the high cost of being an officer," says:

The recent additions to the lists of army officers have had an immediate reflection in the prices of equipment, and unless some government aid is volunteered the officers now in training may be hard put to it to equip themselves.

It is the students at the training camps whose cases deserve immediate consideration. Some 1,800 of these are being designated to take the July examination for appointment in the Regular Army. If these students have saved every penny of their pay for the term of their training, they will have on hand exactly $300 when discharged from camp. A well-known outfitter to army officers quotes the following as the very lowest prices on uniforms: Overcoat and raincoat, $100; service hat, $4; olive drab shirt, $8.50; service coat, $18.50; service breeches, $9; shoes (two pairs), $11; leggings, $9; revolver, $20; saber, $12; belt, $5; insignia, $3.50; dispatch case, $9; incidentals and extra articles, $50. In the case of mounted officers, add: Saddle and spurs, $45; halter and bridle, $10; saddle and cloth, $28; riding gloves, $7; mount accessories, $10. Prices vary somewhat, but these give an idea of the cost of some items of an outfit.

Cadets at the Military Academy are taken care of by the wise plan of deducting $8 per month from their pay, the total being turned over at graduation. No such foresight has been shown in the cases of reserve officers, or in the cases of the thousands to be appointed from the Regular Army, National Guard and civil life. All of these are required to purchase their own equipment.

Should inquiry develop that this state of affairs actually exists, a great burden could be lifted from the thousands of young men who have left every-day callings to officer the National Army, and who literally cannot afford such an outlay.—*Arms and the Man.*

French Chevrons and Our Own

An officer of the Reserve Corps, U. S. A., on his way to France on Red Cross detail, writes that on board ship he met several French commissioned officers and a number of soldiers who were returning to France, all having been in the United States recovering from wounds, with their families. All were wearers of the Croix de Guerre. As a result of his talks with them, our correspondent makes the following suggestion:

The French are a proud and sensitive people. Since this great war started they decided to use chevrons (identical in size, shape and location with those of our Army) to denote service and number of wounds. We should change the chevrons of our noncoms. In the French army chevrons on the right arm indicate the number of times a man has been wounded severely enough to be separated from his unit, and in the hospital. The French consequently will think our sergeants have been wounded three times

and our corporals wounded twice. This is very unfair to brave men properly decorated. In the French army the first chevron on the left arm shows one year of service and each additional chevron shows six months of service in this war. Until they learn better the French consequently will think our sergeants had two years' service and our corporals eighteen months' service.

We can easily correct this by placing all our chevrons and marks on the sleeves below the elbow instead of on the upper arm and the chevrons can also be inverted. We can then adopt the French chevrons for service and number of wounds. Our insignia for officers is different enough from that of the French to be O.K. and cause no confusion until we reach the overcoat. The French have the same braid on the sleeves of the overcoats, but a second lieutenant has one, thus putting each of our officers behind one grade of the French. A major in the American Army has three braids, but this is the mark for a captain in the French Army. A detail like this should be easily arranged, and it would be well to urge the change, or else get something entirely different from the French system.

I hope the suggestions made can be urged on the War Department and be carried out. It is not right to let the French people rest under any misunderstanding about our corporals and sergeants; and our officers when wearing overcoats should be known to hold a certain rank. When we copied the braid on the sleeve of the overcoat from the French army it should have been copied exactly.—*Army and Navy Journal.*

Medical Corps Mortality

One of the most frequent exaggerations concerning losses in warfare appearing in print recently is concerned with the heavy mortality in the medical corps abroad, particularly in the British service. This paragraph from the *Wall Street Journal* is typical:

Reports indicate that heaviest losses in the present war have been suffered by the medical corps. In former wars, physicians were kept in the rear, but not so now. Without arms and with no way of protecting themselves, these men are mowed down. Already 60,000 have been killed. In a recent engagement 257 were killed in an hour; in another engagement 400 were killed.

With the laudable intention of correcting these reports Col. T. H. Goodwin, of the British Army Medical Service, who has been in this country since the visit of the British commission, cabled to the British War Office for the actual facts. He received the following data: The total casualties among medical officers of the British forces, on the western front, from the beginning of the war to June 23, were: Killed, 195; wounded, 707; died of disease, 62. With the known fact that there are 12,000 doctors in the entire British Army, and allowing 200 killed on the western front, there would have to be 3,600,000 doctors engaged in the present war abroad to work out the very loose estimate of 60,000 killed.—*Army and Navy Journal.*

Numbering Our Army Units

Additional details of the new system which will be used in numbering units of the Army of the United States have been worked out and have received the formal approval of the Acting Chief of Staff and the Secretary of War. A general order soon will be issued containing information along the following lines:

The three parts of the Army of the United States referred to in the Act of May 18, 1917, are designated: the Regular Army, the National Guard and the National Army. The regiments, brigades and divisions of each arm of the

above three groups will be numbered in separate series, the first number to be as indicated in the following diagram:

REGIMENT

	Inf.	*F. A.*	*Cav.*	*Engrs.*
Regular Army....	1	1	1	1
National Guard...	101	101	101	101
National Army...	301	301	301	301

BRIGADE

	Inf.	*F. A.*	*Cav.*
Regular Army....	1	1	1
National Guard...	51	51	51
National Army...	151	151	151

DIVISION

	Inf.	*F. A.*	*Cav.*
Regular Army....	1	...	15[1]
National Guard...	26	...	...
National Army...	76	...	...

What Service Ribbons Mean

"What," asks the average civilian, "is the meaning of those little strips of parti-colored ribbon which we see so often nowadays on the breasts of officers and men of the army?"

Nothing is more puzzling to the citizen, whose thoughts and interest are captivated by army matters to a greater extent than they have been in a generation, than these little ribbons. Mr. Average Citizen is rapidly learning to distinguish an enlisted man from an officer, to know that one silver bar on each shoulder of a khaki tunic denotes a first lieutenant, two silver bars a captain, a gold leaf a major, a silver leaf a lieutenant colonel, and an eagle a colonel, but the parti-colored ribbons usually remain a deep mystery.

The fact is that each little ribbon and each vertical strip of color therein has a deep and an honorable significance. Every one and three-eighths inches of the strip denotes that the bearer is the possessor of a medal awarded for valor, or the possessor of a badge for service in some famous campaign.

These medals and badges are not for ordinary wear. They are placed on the owner's breast only when he is attired in dress or full dress uniform, and in time of war this ceremonious dress is avoided and only the khaki of the service uniform is worn. Thus the service authorities have decreed that, for service uniforms, the symbol of the medal or badge, and not the medal or badge itself, shall be exhibited. That symbol is the tiny ribbon, wrapped about a tiny bar of metal and fastened to the tunic's breast.

There are two medals and eight campaign badges authorized in the army, and each of these ten awards has its own particular bit of ribbon. They speak a language not well known outside of army circles, but one it might be well for all civilians to learn, for it is a high and lofty language, breathing the spirit of pure patriotism and devotion.

Frequently in these days of closer association between those in khaki and the civilian population one will observe an officer or enlisted man whose row of ribbons extends well across his breast, testifying that he has earned several of the service awards. Rarest of all these ribbons and most precious is one officially described as follows: "Light-blue silk, with white stars, one and three-eighths inches in width and

[1]Cavalry divisions of the Regular Army will start at No. 15 in order to provide for the organization of other divisions, either mounted or dismounted. Engineer regiments (except Pioneers) will be numbered in the manner already approved and in effect. The designations of regiments of the National Guard will show in parenthesis their present State designations. For instance, 123d Infantry (1st S. C.), etc.; and the designations of regiments of the National Army will show in parenthesis the State from which a regiment, or the bulk of it, was drawn.

three-eighths inch in length." That is the ribbon of the medal of honor—what corresponds in the American service to the British Victoria cross.

The other medal, which has a ribbon symbol, is the Philippines congressional medal, awarded for distinguished service in the Philippine insurrection in 1899. The army regulations provide that this ribbon be "of silk and composed of a band of blue (5/8 inch), with a white stripe (1/8 inch), separating it from bands of red (1/8 inch), white (1/16 inch) and blue (1/16 inch) on either side. The whole to be 1 3/8 inches wide and 3/8 inch long."

The Philippines campaign badge, also issued for services in the Philippines insurrection, is more common than the medal, since it was given to all who served honorably, while the medal was for especially notable service. The Philippines badge is "of silk and composed of a broad band of blue (5/8 inch) between bands of red (5/16 inch), with a narrow stripe of blue (1/16 inch) on either edge. The whole to be 1 3/8 inches wide by 3/8 inch long."

The certificate of merit badge is an ancient award in the army, by old tradition ranking only next below the medal of honor. Its ribbon is "composed of two bands of red (1/4 inch), white (3/16 inch) and blue (3/16 inch), with the blue on the outside and red stripes separated by a white stripe (1/16 inch)."

There is another important award to be found on the breasts only of retired officers and men called back to active service. It is the civil war campaign badge, testifying to service in the Union army. It is "composed of two bands of blue and gray, of equal width, the whole to be 1 3/8 inches wide by 3/8 inch long."

Still another is the Indian campaign abdge. Its symbol is a ribbon "composed of a simple band of bright red (1 1/4 inches), with a narrow strip of deep red (1/16 inch) on each side."

The Spanish campaign badge was awarded to all who served honorably against the Spanish in the war of 1898. Its symbol of ribbon is found on the breasts of nearly all captains and officers of higher rank, and on the breasts of a great number of non-commissioned officers. This symbol is "composed of two bands of blue (each 3/8 inch), separated by a band of yellow (3/8 inch), with a border of yellow on each edge (1/8 inch)."

There are two distinct awards for army service in Cuba in addition to the more general Spanish campaign badge. These two are known respectively as the army of Cuba occupation badge, for services 1898–1902, and the army of Cuban pacification badge, for services in 1906–09.

The ribbon symbolizing the possession of the Cuban occupation badge is "a band of red (3/8 inch), a yellow stripe (1/16 inch), a band of blue (3/8 inch), a yellow stripe (1/16 inch) and a band of red (3/8 inch), with a border of blue (1/16 inch) on each edge."

The ribbon of the Cuban pacification badge is "a band of olive drab (5/8 inch), with a blue stripe (1/8 inch) separating it from bands of white (1/8 inch) and red (1/8 inch) on either side."

One of the easiest of all the ribbons to recognize is that which testifies to the possession of the China campaign badge, issued for service in the China relief expedition of 1900-1901, when American troops carried the flag to

Peking in an arduous and hard-fighting march. The ribbon is "a band of yellow (1¼ inches) with edges of blue (1/16 inch)."—*Arms and the Man.*

Intensive Training in Marksmanship

Under the caption "Teach the New Army to Shoot," Col. R. C. Van Vliet, of the 37th Infantry, contributes to the *Army and Navy Journal* some very pertinent and pointed remarks anent the need of intensive training in marksmanship for the new national army.

In the course of his discussion, the colonel says:

I hope for the honor of American marksmanship that the General Staff has perfected plans for an intensive course of instruction in rifle firing for the 500,000 men to be enlisted. The bulk of these men have never had a military rifle in their hands, and, without instruction, it would be folly to pit them against seasoned troops in Europe.

If great camps are to be established for the instruction of these men, it will be extremely difficult to accomplish this most important part of the soldier's training owing to the immense rifle range necessary. There is no better system known than the one now in use by the Regular Army in training its marksmen, but we must remember that at each military post there is an elaborate range and each man is given two months instruction under experts. It is evident that this cannot be done if tens of thousands of men are rushed into great training camps.

The practical way is to put the men into brigade camps—roughly speaking 6,000 men. This, besides localizing the increments—a thing to be recommended—would allow each camp to have its 200-yard range, which is sufficient for a hurried training, and with the gallery firing is all that is necessary. One month per regiment must be given up for this instruction, including the gallery practice—pointing and aiming and position drills; gallery practice is of the utmost importance to men unaccustomed to arms, and with unlimited ammunition and opportunity any man can become a proficient rifleman. My system in the regiment is to divide the companies into three parts—one part is pointing and aiming, another is learning the positions and the use of the strap, etc., and the third is firing. This keeps the entire company at work, and by changing from one to the other keeps them interested.

For fast work each company should have four target rifles and practically unlimited ammunition. The regular range should be a pit containing twenty-four "A" targets (sliding) with a range of 200 yards. Everything that can be learned upon an extended range can be learned at 200 yards. I am greatly in favor of brigade camps, for many reasons, the principal one being that the training of 6,000 men is a big enough undertaking for one man, and another is the difficulty in obtaining the necessary ranges for rifle shooting.

If this training is contemplated it will require a directing officer, assisted by regular officers conversant with army methods and the manner of building ranges—and remember these cannot be made in a day—the work is long and difficult. Safety for the markers and the inhabitants of the neighborhood must be considered. Now is the time to appoint the officers, select the sites, contract for the work and have everything ready before the recruits are rushed into their camps.

Whether one is disposed to agree or disagree with Colonel Van Vliet's plan as outlined does not alter in the least the fact that this officer has called attention to what, if properly carried out, will be of the greatest service possible in welding together a strong and potentially victorious army, and which, if neglected, will not only send men into the trenches poorly equipped to care

for themselves and handicapped beyond measure by ignorance of the tools of their trade, but may result in disaster to the American arms.

The plan outlined by this officer at least is practical. It harbors no elaborate and difficult program of field firing, and it is calculated to be of real service.

When the increments of the draft are made part of the established forces of the United States, the Regular Army will have been distributed so widely to give leaven to the new mass that it will practically have disappeared, and instead of having absorbed the draft, the Army as it is known today will have become completely merged with the conscripts.

Therefore what has already transpired in the matter of rifle practice, save in individual instances, is, to all practical intents and purposes, past and gone.

But the way is open. The United States can send her soldiers to France equipped to uphold the ancient honor and tradition of America's riflemen. And the one way in which such equipment can be supplied is intensive training in marksmanship.—*Arms and the Man.*

Rifle Shooting

It was often stated in the early days of the war that the wonderful marksmanship of our infantry was largely responsible for the repulse of the German attacks and for the heavy losses which the enemy sustained. When, however, the campaign became one of trench warfare it seemed, and was indeed, almost everywhere claimed, that the rifle had given place to the heavy cannon and to the machine gun, and that individual marksmanship was now of small account. Happily the military authorities have not been misled by the results achieved by the big guns, the bombs, and the various missile-throwing trench weapons into imagining that the infantry soldier has ceased, or was likely to cease, to be primarily a rifleman, and the good work which was initiated before the war at Hythe and Bisley and at regimental rifle meetings has been continued and expanded at the many musketry schools which have been established behind the front in France, and where selected officers and men of our forces have been taught all that was to be got out of the service weapon. The result has been shown in the account we hear of the wonderful rifle practice made by our troops in the fighting around Bullecourt, reminding us of the stories that used to reach us during the retreat from Mons and how German mass attacks withered up under the fire of our infantry of the Old Army. In certain other of our wars we used to hear many complaints of the British service rifle; few of these have been forthcoming during the last three years when the British army rifle has been hardly tried in many fields; it appears to have come well out of a very searching ordeal, and there has even lately appeared a suggestion in an American paper that the United States contingent should be re-armed with Lee-Enfield rifles made in American factories.—*Canadian Military Gazette.*

Concrete Bases for Rapid Firers

Machine guns have been installed in concrete pits, which present but a small mark for artillery fire, by the German forces, according to recent London dispatches.

One account said:

The new German type of machine gun position, the "Mebu," as it seems to be called (M. E. B. U., which appears to stand for "Maschinen Eisen Betun Understand"), built of reenforced concrete, as its name implies, is a very carefully designed and elaborate structure, writes the special correspondent of the *Times*. It is, of course, entirely subterranean, generally a group of three pits for a like number of guns, connecting in a chamber below, from which concrete steps go up a concrete-lined shaft in the actual positions above. The roof of each pit is circular, protected with a lid or covering of steel and concrete, with a narrow observation slit in front, and the orifice through which the gun fires is only a few inches above ground level.

The target which each pit offers, therefore, to hostile guns is about equivalent to that of the opening to a coal cellar in a London pavement, with the lid propped a few inches above ground. Our guns, however, as soon as these pits are accurately located by observation, do, in fact, knock them out with direct hits—and nothing but a direct hit is of any use—as most remarkable evidence of the quality of our artillery.

For the defense of open country and bare slopes these "Mebus" are the enemy's favorite device. The ruins of villages, woods and other salient points are filled with machine-gun posts adapted to the conformation of the ground, and in places, as the chemical works above Roeux, there are positions as strong and complex as the Schwaben or Stuff redoubts. Besides the infantry garrisons of the positions in woods and villages, numbers of scattered but unconnected trenches, with which there is communication only across the open, and therefore in the dark, are disposed about the ground wherever suitable positions offer.

Notes on Infantry Organization

These notes have been given by General Staff Officers of the Bureau of Infantry at the General Headquarters and have been revised and approved by the Staff Officer in charge of the special matter treated.

COMPANY

1. *Strength.*—The strength of the infantry company should not exceed 200 as a maximum.

The present French effective of 194 is considered sufficient.

2. *Arms:*

(*a*) *Rifle.*—All men should have the rifle and bayonet, except those armed with auto-rifle.

It would be well to give the grenadiers the carbine or a lighter rifle if practicable.

(The telephone group should be armed with the auto-pistol.)

(*b*) *V. B. rifle grenade.*—Number of present allowance is right (see Note Annex to Combat of Small Units of Infantry).

(*c*) *Grenadiers.*—Number at present is about right. (*Groupe d'Elite* in each company recommended.)

(*d*) *Auto-rifle.*—16 to a company, 8 of which are held in reserve to be used when special circumstances warrant (very rough and broken country, for instance).

BATTALION

(*a*) *Machine gun.*—It is indispensable to have *one machine-gun company per battalion* of at least 8 pieces.

Of the two types of companies of machine guns (1) on wheels, and (2) on pack animals, the type on wheels is the one that will be best for this war.

158 men are needed for the machine-gun company on pack animals.

118 men only for the machine-gun company on wheels.

(*b*) *37-mm. cannon.*—This cannon (one of which is usually assigned to a battalion) is indispensable in the offensive and always useful in the defensive.

REGIMENT

It is to be noted that the regiment has its own:

Skilled workmen (carpenters)	12
Engineers	90
Engineers bombardiers	24
Gunsmiths	4
Laison agents	5
Litter bearers	38
Telephone and signal men, etc. (Regimental Headquarters Company)	

These men constitute an additional headquarters company of 302 noncommissioned officers and men of the different specialties.

The regimental staff consists of 11 officers.

The battalion has 40 noncommissioned officers and men as specialists and has 3 officers as staff.

The complete organization of the infantry regiment has already been sent in. This report calls attention to the fact that a considerable number of men in the regiment and battalion are provided for so that the companies do not lose by having to detail them and the regiment does not have to *borrow specialists from other corps.*

THE DIVISIONAL DEPOT

This depot is made up of the 4th, 8th and 12th Companies and each of these companies is kept at the usual strength of the company, 194.

These companies are fed from the battalions of instruction, which are an army depot, and which are held from 50 to 80 kilometers in rear of the lines.

Men may be sent from one army depot to reinforce another army depot.

It is to be especially noted that in the present French infantry division, which is now an independent unit with all of its own services, the *infantry* is commanded by a brigadier general, while a major general commands the division as a whole, with its artillery, aviation, etc.

This is especially important in view of the fact that our division is about equal to the French corps.

Editorial Department

How to Maintain Our Families

We wish to express our full approval of the excellent provisions of H. R. 5723, introduced in the House of Representatives on August 10, 1917, by Mr. Alexander, but call attention to a serious omission in Article II thereof. This article provides family allowances for all enlisted men in the military and naval services of the United States, but makes no such provisions for commissioned officers. The other provisions of the bill include officers.

This was evidently drawn under the supposition that the plain provisions of the Act of Congress of March 2, 1907, had not been nullified by decisions of the Judge Advocate General and the War Department.

Such being the case, Congress will surely correct such a state of affairs by granting, to all officers having dependents, the necessary allowance or commutation of quarters.

As this bill now stands it makes liberal provisions in case of death or disability, but does not provide for the living.

Officers should not meekly bow to the inevitable and keep on piling up debts because of their insufficient pay, but should plainly state their needs to Congress, which alone will listen to our plea and grant us relief, without which the future looks dark indeed.

Officers on duty in Washington or at Department Headquarters, Depots, Recruiting Duty, etc., continue to draw commutation of quarters, heat and light, and, as a rule, have their families with them and thus avoid the expense of maintaining two establishments, whereas officers on duty in France or in our camps and cantonments are denied commutation and the joy of having their families with them, but must provide a home for them elsewhere at their own expense.

Even with the commutation allowance which is their right, and necessary, an officer can no more than meet expenses and live as an officer must live, but without this slight assistance his position is intolerable.

It now seems uncertain whether S. 1786 will come up for consideration this session, hence relief must be sought elsewhere than through the Watson amendment to which we referred in our August number.

To sum up the reasons why officers should have commutation of quarters when on field duty to assist them in supporting their families while on field duty and absent, the following are given:

(*a*) Expenses are now higher than ever before.

(*b*) When the family is left behind the necessary expense of maintenance is increased not less than 50 per cent above that needed when it is not necessary to be absent.

(*c*) If the family is taken to concentration camps the rent on quarters is always higher than at home, if quarters are available at all.

(*d*) The expense of maintaining oneself has increased 75 per cent over the previous cost, price of clothing and all other equipment having increased from 20 per cent to 75 per cent.

(*e*) It has been recognized that the enlisted men absolutely need additional pay, whether married or single, and the married men are receiving discharges nearly as fast as they can be issued, while in not furnishing officers with quarters or, in lieu of quarters, commutation of quarters, their pay is decreased, which is not in keeping with the policy to provide additional means of support for enlisted men.

(*f*) The additional expense for doctor's bills is now added to the officer's expense account unless he happens to have his family near his regiment or station, which is practically impossible in the case of National Guard and National Army Officers, and impossible for all officers who go to Europe.

Further, it does not seem fair to deprive any officer of any part of his allowances, or, in other words, make him pay for being allowed to be an officer in times like these.

A request to Congress from the Secretaries of War, Navy or Treasury, with the necessary reasons therefor, is all that is needed to correct this injustice, and we hope they will see the necessity for granting this relief.

We have seen many pitiful letters from officers or their wives showing clearly their straitened circumstances due to no fault of theirs, but wholly due to their desire to give their best to a government which seemingly has thus far not treated them justly nor with due regard for the best interests of the Government.

No person can give his best when he has financial worry in addition to the possibility—even probability—of death or disability ahead, thus leaving his family without means of support.

Such assistance should be granted to all officers of the military and naval forces who have a wife, child, parent, brother, or sister wholly dependent on them for support.

The cost to the Government would be small, comparatively speaking, as perhaps the majority of the younger officers are unmarried, but the Government cannot properly avoid its obligation in the matter by shifting the burden on to the officers themselves, who cannot meet it. It thus becomes an excessive and unjust tax to be borne by a few instead of being included in the general revenue scheme and distributed among the entire population of the nation, each of which would then bear a negligible part.

Looking Ahead—A Military Policy Needed

Congress must take up again the subject of universal military training and service on which it was engaged when war came upon us. The selective draft, an emergency measure, comes far from being the same thing. It is purely temporary in its operation and has many shortcomings.

This first draft may produce an army of less than 2,000,000, and the nation will be where it was before so far as providing for further military forces is concerned. Another law and another period like the present, of painful and unsatisfactory selection from a mass of ill-informed and ignorantly apprehensive recruits, will follow.

Congress should order that on January 1, 1918, all men of 21 who attained that age after the date set for the selective draft should be called to the colors for instruction.

Such a law should be made permanent so that we would have such a class every year. This would give a steady stream

of young men into the instruction camps to be taught the duties of a soldier and a patriot and to serve for a year or more.

Thus in two or three years we should have universal training established with the minimum of friction.

Its advantages would be so convincing that it would never be abandoned.

No time could be more opportune than the present for the advocates of preparedness to take up immediately the question of the adoption of a safe and sane military policy, which will include universal manhood service and training, and the maintenance of our army, including men under training, of not less than 750,000 men to be entirely under federal control and with no state connection whatever.

The country is beginning to realize our utter unpreparedness and to see the inestimable good to be derived by our young men from military or naval training, morally, mentally, physically, and spiritually, but will not fully appreciate it until such a system of training has been in operation for some time.

The marked difference between the magnificent appearance of the nearly 40,000 young men who have just finished three months in the Reserve Officers' Training Camps and the appearance of the average man seen on the streets should be a sufficient proof of the benefit of such training. A similar change is being wrought in some 450,000 additional young men in the Regular Army and the Navy. The National Guard and the National Army will now go through a similar course of training.

Having made a start in the right direction—which was only made possible after three years of pleading by our public spirited men, assisted by repeated Teutonic insults—it would be a fatal mistake to allow this opportunity to pass for adopting a military policy for this country which is adequate and commensurate with its standing as a world power.

To restore our military establishment to its pre-war footing of a volunteer professional regular army and the ineffective state-control-National Guard system would completely nullify the good start that we have made in our National Army.

The military education we are about to receive through actual experience ought to render the establishment of our military system on a proper military basis, a comparatively easy task if the foundation is laid immediately and the building of this establishment wisely and constructively guided.

A force, at least the size of the present Regular Army, will, at the end of the war, be necessary as an emergency force for the safe handling of the country, and, in addition thereto, a training force should be provided for as a branch of the army. The training cadres might well be taken from among the best men developed by the war. Upon muster out of the National Army and National Guard the Training Force should be immediately called into camps and cantonments.

Let us realize the fact that the law creating the present army is a makeshift and only for the duration of the present war.

The preliminary study should be made now by the general staff and a comprehensive plan be submitted to Congress, and a law be enacted without delay. No one knows for how long nor how short a time the present war will continue.

Let the general staff get busy and then let all patriots get behind the plan proposed and carry it to completion.

¶

"All Together, Soldiers!"

The leading article in the *Journal of the Military Service Institution* for July–August is entitled "All Together, Soldiers!"

The 8,000 subscribers to the INFANTRY JOURNAL come from all branches and arms of the service, and such measure of success as has come to the INFANTRY JOURNAL has come only because it has unselfishly advocated "cooperation," "unity," and a "proper military policy." If all branches and arms of the service do as much for the common cause it would be about all the "getting together" that is necessary.

As indicating the policy of the Infantry Association, we repeat the "Pledge" which appeared in the INFANTRY JOURNAL for September–October, 1912, and again in January–February, 1913:

Organization—The Pledge

For a period measured now by years the Infantry has worked steadily and with steadily increasing unity in opposition to the fast ruinous policy of piecemeal military development and in support of the adoption of a comprehensive plan of military organization and growth upon which all arms could unite with the assurance of attaining true military efficiency. In the promulgation now by the War Department of a plan of organization covering all the forces that are now ours, a logical development for the future, and the institution of a military system, the Infantry finds much gratification. It finds gratification, of course, because the formulation and promulgation of such a plan is a fulfillment of its hopes and a reward of its efforts. But there are reasons far more important. For this is a plan not of and for the Infantry, but of and for the Army, and for the nation. It was made not by the Infantry, but by all arms; and, in finding ground upon which they could fairly meet, the representatives of the several arms whose immediate work gave it form foretold the success with which the arms themselves may now unite in support of the policy laid down and in opposition to everything that seeks for whatever reason to violate the principles upon which this policy is founded. Speaking for itself alone, but hoping for all, the Infantry pledges complete, unqualified, and loyal support to the policy as enunciated, and pledges equally earnest and loyal opposition to every attempt appearing hereafter to secure advantage for any part of the service in violation of the principles comprehended within this policy and within this pledge.

Organization—Lest We Forget

The Infantry has pledged itself, through this magazine, to support of organization and to opposition to all that forbids or postpones organization. Let us consider, then, at the cost of whatever repetition, what this pledge means.

To the lack of organization of the regular forces, to the absence of any earnest effort on the part of the Army to secure organization in the past, is due all the military confusion, as well, perhaps, as all the national insecurity that is ours today. There is nothing in the way of evil proportions among the arms, of unscientific distribution of our troops and of unmilitary methods of supplying and administering them, nothing of our piecemeal legislative development, of our military extravagance, nothing of the internal strife within the service and of unequal opportunities for advancement that have led to strife—nothing, indeed, of all that goes to make up our collective military inefficiency today that cannot be traced fundamentally to this single cause.

In brief, the Infantry stands for a National Military Policy. To readers of the INFANTRY JOURNAL the cost of the lack of such policy in the past is so

well known that it would be time wasted to discuss it. It may not, however, be amiss to touch upon its salient features as embodied in the "Report on the Organization of the Land Forces of the United States," in so far as this policy pertains to the military establishment, and is the occasion for the pledge.

It may be well first to recall that the report in question is the result of a close study of our civil and military systems and traditions by a carefully selected board of officers, and that after the preliminary report was prepared it was revised and amended as the result of criticism and discussion participated in by highly qualified officers of the several arms and corps. So it may be justly said that the policy, as formulated in the report, is the policy of the Army, our policy, and as such should receive the loyal support of all. It may be—nay, it is certain—that everyone will not be in accord with all details; but where will you find even two men who will agree with all of the details of any measure? Enough if we can "get together" on the general principles, and by united and harmonious action be fortunate enough to convince the framers of our laws and policies that the measure is practical, needful and useful, and thus secure the adoption of the only means whereby we will ever be in a position of readiness. For it has been truly said that "the United States will never be prepared for war, no matter how much money we spend upon our military establishment, no matter how devoted and intelligent our soldiers are, until we have a persistent military policy."

Let us therefore sink our differences, forget the details on which we may not agree, and, as an Army, stand squarely for the policy as enunciated by the War Department.

No change has been made in the policy of the Infantry Association, and we reiterate our ancient pledge.

We are willing mutually to agree to put to a vote of the members of the Infantry, Cavalry, Field Artillery, Coast Artillery, and other associations a proposition to join with them in the formation of a United Service Association, of which our several journals shall be the mouthpieces. We do not believe that there is any great demand for a journal other than those of our several associations.

Officers of the Reserve Corps and of the National Guard are now eligible to membership in the Infantry Association and thousands of them are now associate members. No separate organization for them will be necessary or advisable.

¶

Officers for the National Army and National Guard

The method by which officers were selected for the National Army, in disregard of the advice or opinion of the General Staff, as a body, shows a defect in administration which is detrimental to the service and dangerous to the interests of the Government and of each individual arm of the service. Just now the pendulum swings toward the Field Artillery; it may be otherwise later.

We are informed that the original plan, as approved by the Secretary of War, provided that all line officers should be placed on one list, according to length of commissioned service, and that temporary promotions and assignments be then made in regular order from this list. This was such an eminently fair and just plan that it met with almost unanimous approval of the officers of the Army, and we all supposed such a plan would be followed. Instead, at the last moment, the approved plan was changed without the advice of or consideration by the General Staff, so that Field Artillery and

Coast Artillery officers were placed on one list for artillery commanders in the ratio of about two Field Artillery officers to one Coast Artillery officer, and the Infantry and Cavalry officers placed on another list, according to original date of entry into the service. This inequality was somewhat corrected in making details to the Staff departments and to the division staffs. The result is that the junior general officers of Artillery come from classes who have six or seven years less service than the junior brigadier generals from the Infantry and Cavalry. In the case of the colonels, lieutenant-colonels, and majors, the difference is still more astounding. In the Field Artillery, officers with but little or no actual experience in modern field artillery work, as far down as one appointed from volunteers, July 1, 1901, are made colonels, whereas in the Coast Artillery the top of the class of 1898 and in the Infantry and Cavalry the top of the class of 1896 become colonels. Officers became lieutenant-colonels as follows (last man promoted):

Field Artillery, original commission June 13, 1905; Cavalry, original commission July 1, 1899; Infantry, original commission February 2, 1901 (from volunteers); while others became majors, as follows (last man promoted): Field Artillery, June 11, 1909; Infantry, June 12, 1902; Cavalry, June 12, 1902.

The contention that no one but a man who wears the Field Artillery uniform is competent to command an artillery organization, or cannot become so within a comparatively short time, is too ridiculous for serious consideration were it not that this was evidently the argument which was advanced and which determined the final action. Every fair-minded officer will agree that fully three-fourths of the duties, training, and experience of officers are the same in all arms of the service, and that the strictly technical side can be learned within a reasonably short time by any otherwise experienced officer. As a matter of fact, the experience of the British is that a field artilleryman can be trained in far less time than an infantryman, and this is true in our own service. Thousands of additional officers for all arms of the service come from civil life, the training camps, and the Officers' Reserve Corps, and within a few months most of them will develop into good officers in each branch of the service, whether Field Artillery or otherwise, and the time required for this evolution will not differ perceptibly in the different arms.

In the National Defense Act it was provided, among other things, that officers might be transferred from one branch to another under certain conditions, the fair assumption being that Congress had in mind that by this means a better balance might be brought about in promotion in the several branches of the service. In the carrying out of this feature of the act, the Field Artillery and the Coast Artillery constantly opposed transfer to either of these branches unless at the sacrifice of a loss of rank, ostensibly basing this opposition on the "technical" requirements of the officers of these branches, whereas, as a matter of fact, the question of rank was the sole consideration, and such opposition was successfully applied to graduates of West Point and to other officers, no matter what their service or training. Against these rigid requirements in times of peace, we see in times of stress a relaxation of these stern qualifications, and from a training camp experi-

ence we see emerge full-fledged majors —good material enough, undoubtedly, but why the superiority over the trained soldiers of from ten to fifteen years' service?

The unfortunate decision of the War Department that no officer of the Regular Army would be allowed to serve with a National Guard regiment leaves more than five hundred captains of Infantry and Cavalry of from ten to fifteen years' commissioned service to serve as captains in the Regular Army, men whose services could be better utilied as field officers in the National Guard, with a decided increase in the efficiency of the Guard organization. No opportunity should be lost to improve the efficiency of the National Guard. There were many requests from such organizations for the assignment of Regular officers for duty as field officers, and we believe that the general opinion of the Regular Army and the National Guard is not in accord with the decision of the War Department. We urge that this decision be rescinded and that the assignment of Regular officers of Infantry and Cavalry be made by temporary appointment, as was done in the National Army, to fill the many existing and future vacancies as field officers. Nothing could do more to weld the National Guard to the Regular Army so that ultimately one would be regarded as just as dependable as the other. It seems to be time for Infantry and Cavalry officers to assert their authority and independence of thought, and thus prevent such unfair and unwise plans.

No better argument could be offered for the necessity of a law prescribing a one-list system of promotion based on length of commissioned service and for a readjustment of rank of officers now in the service; also for the necessity for chiefs of Infantry and Cavalry, these being the only branches without a chief and a permanent office force, to advocate measures for their improvement and to present to the Secretary of War and the Chief of Staff matters of vital interest to them. As it now stands, though the Infantry outnumbers all other branches combined, its interests receive only incidental consideration by the several chiefs of bureaus. Its development depends on the individual but uncoordinated endeavors of its more earnest officers, rather than on a continuing policy, such as is possible, for instance, in the office of the Chief of Coast Artillery and the chiefs of the several bureaus.

The recommendations of the General Staff should be followed, and should be required in all matters of policy. An independent decision by anyone based on *ex-parte* information supplied by individuals and in disregard of the General Staff is dangerous and should not be possible. Until this is assured, the Army will be apprehensive and without confidence in the administration of the War Department.

Night Operations

A Department devoted to the interest of newly commissioned Infantry Officers, Officers of the Infantry Officers' Reserve Corps, and candidates for Commission.

Conducted by Capt. W. H. Waldron, 29th Infantry

GENERAL REMARKS ON THE SIGHTING AND POSITION AND AIMING EXERCISES

The importance of sighting and position and aiming drills cannot be too persistently impressed upon the soldier. If these exercises are carefully practiced, the soldier, before firing a shot at a target, will have learned to correctly aim his piece, to hold his rifle steadily, to squeeze the trigger properly, to assume that position best adapted to the particular conformation of his body, and will have acquired the quickness and manual dexterity required for handling the piece in rapid fire. This knowledge cannot be successfully acquired upon the target ground. At that place the time that can be given to instruction is limited and should be devoted to the higher branches of the subject. Even if the desired amount of attention could be given to each soldier, nevertheless, from the circumstances of the firing, his errors cannot be readily determined. It is more than likely that the soldier would never discover the reasons for his failures and would, therefore, be unable to properly correct them.

Under such conditions the knowledge that he may have of the many other requisites for good marksmanship cannot be utilized to full advantage, and, in fact, can but in a limited degree compensate for the neglect of these first principles and for the failure to lay, by assiduously practicing them, the only firm foundation for future proficiency.

If, in the instruction practice on the range, it is found that the soldier makes errors in his position, he should be required to stop firing and to practice the third exercise for 10 or 15 minutes. He should be encouraged to go through these exercises frequently at other than drill hours, care being taken that, in the aiming and trigger-squeeze exercises, he always has some definite objeect for a mark.

Q. What appliances are provided on the rifle for controlling the point on the target at which it is desired the bullet strike?

A. 1. The leaf of the rear sight, which is graduated and has a slide attached, which may be fixed at any point desired and controls the strike of the bullet in a vertical plane perpendicular to the face of the target.

2. The movable base on the rear sight, which, by the use of the windage screw, controls the strike of the bullet in a horizontal plane perpendicular to the face of the target.

Notes.—1. The soldier may find when firing at a target that the first shot has missed the bull's-eye or figure, and in order to cause the second to hit, two methods may be used: The point of aim may be changed or the sights may be moved and the same point be aimed at. In order to do accurate shooting it is essential to have a well-defined mark at which to aim; consequently, except for very slight corrections, the method of moving the sights, involving changes in elevation and windage, is devised.

2. The instructor will show the men the graduations on the rear-sight leaf, and will explain to them the value of the different divisions. He will explain how to adjust their sights for different distances. He will make it clear that raising or lowering the slide on the rear-sight leaf has the effect of raising or lowering the point struck. The amount of change which a given amount of elevation will cause in the point struck varies with the range and with the rifle and the ammunition used.

3. The instructor will explain how to move the movable base by use of the windage

screw; that the graduations on the rear end of the movable base are for convenience in setting the sights and applying corrections; that each division is called a point of windage; that turning the movable base of the rear sight to the right or left changes the point struck to the right or left; that, to overcome the drifting effect of a wind from the right, the movable base must be moved to the right, and, if the wind be from left, the movable sight base must be moved to the left.

4. (*a*) *Elevation.*—The graduations on the rear sight will be found correct for but few rifles. This is due to slight variations in the part of the rifle, especially the barrel, which occur under the most exact methods of fabrication. Not all rifles are tested at the arsenal, and when the graduations for the rear sight have been experimentally determined they are correct only for the particular conditions existing when they were so determined. The correction necessary for each particular rifle at any range is found by shooting it at that range, and is constant with the same ammunition and when firing under the same conditions. If no correction is necessary, the rifle is said to "shoot on the mark."

(*b*) *The zero of a rifle.*—That reading of the wind gauge necessary to overcome the drift of a rifle at a particular range is called the "zero" of that rifle for that range, and all allowances for wind should be calculated from this reading.

The "zero" of a rifle is found by shooting it on a perfectly calm day.

Q. What methods are employed to teach the soldier to adjust his sights properly?

A. A target should be placed on the wall facing the squad and a blank paster attached a foot or more from the bull's-eye, at first directly above or below the bull's-eye, then on a horizontal line with it, and finally in an oblique direction.

For this drill the rifle of each soldier who has not determined by actual firing the "zero" and the correct elevations for the different ranges will be assumed to shoot on the mark and to require no windage.

Announce the range and tell the men that the paster represents the position of an assumed hit and require each man to correct his sight so as to bring the next hit into the bull's-eye. This exercise should be repeated daily during the gallery practice, using the A, B, C and D targets, until the men have acquired accuracy in making corrections for all ranges up to 1,000 yards.

When the men have learned how to adjust their sights, this exercise should be carried on in connection with gallery practice. The rear sight on each rifle is given an incorrect setting in elevation and windage by the instructor, and the soldier required to find the correct adjustment by firing.

Note.—The score book in general use in the service shows graphically the location of the strike of the bullet for so many yards elevation and so many points windage. The following simple table gives these corrections in condensed form:

Range.	Correction on wind gauge necessary to move the point struck 1 foot.	Correction in elevation necessary to change the point struck 1 foot.
Yards.	*Points.*	*Yards.*
100	3	415
200	1.5	185
300	1	105
400	.75	70
500	.6	48
600	.5	355
700	.43	25
800	.375	20
900	.333	15
1,000	.3	12

Q. How is the direction of the wind designated in target practice?

A. The direction of the wind, for convenience, is expressed by a clock-face notation, the clock being supposed to lie on the ground with the hour XII towards the target or mark and the hour III at the firer's right hand. A wind blowing from the front—that is, from the direction of the target—is

called a "XII-o'clock wind," one directly from the left and across the field of fire is called a "IX-o'clock wind," and so on. The direction of the wind can be obtained by observing its effect upon smoke, on trees, or grass, or dust, or by wetting the finger and holding it up.

Q. How is the force of the wind designated?

A. As so many miles per hour.

Q. How is the soldier taught to estimate the force of the wind?

A. An anemometer should be placed near the barracks, where it will not be exposed to cross currents, and so that the dial can be readily seen. The force of the wind can then be read from the dial and at the same time the effect of the wind on the boughs of trees, flags, and streamers, and the smoke from chimneys should be observed. The soldier should be required to estimate the force of the wind and then verify his estimation by anemometer readings. This exercise should be repeated frequently until the soldier has learned to estimate roughly the force of the wind without the aid of an anemometer.

Q. What is the next step in the soldier's rifle firing after he is familiar with the sighting and aiming exercises and familiar with the methods of sight setting?

A. Gallery practice.

Q. What is the value of gallery practice?

A. 1. The interest is easily maintained and further progress, especially in teaching the trigger squeeze, is made.

2. Many of the external influences which on the range affect the firing being absent, the soldier is not puzzled by results for which at this stage of his education he could not account were he advanced to firing with full charges.

3. There is no recoil to induce nervousness and flinching, the soldier soon finds that he can make good scores, and this success is the greatest stimulus to interest.

4. It fixes the habit of aimed fire.

Q. What firing is included in the gallery practice test of the soldier before he is permitted to proceed to range practice?

A. The following table shows the details of the gallery practice firing:

Range (feet).	Target.	Position.	Scores.
50	The iron gallery target issued by the Ordnance Department, or one similar thereto, or the paper "X" target.	Kneeling.	A minimum of four (4) at each range in each of the positions prescribed.
50		Standing.	
75		Prone.	
75		Sitting.	

Notes.—Gallery practice will be conducted in scores of five shots. The number of scores to be fired by any man at a single practice is determined by the company commander.

No reports of the results of the firing will be required, although a record of it should be kept in the company for the instruction and guidance of the soldier.

Q. Of what importance is it to the soldier that he be able to estimate distances correctly?

A. On the battlefield fire will usually be by groups and the ranges given by officers or noncommissioned officers. The battlefield is reached only after a long series of experiences in scout, patrol, and outpost duty, in which the soldier is frequently placed in positions where it is essential that he shall determine for himself the range to be used in order that the fire may be effective. It is, therefore, made a prerequisite to qualification that the soldier shall be proficient in estimating distances by eye.

Note.—During the estimating-distance drills advantage should be taken of every opportunity to train the soldier in observing his surroundings from positions and when on the march. He should be practiced in

pointing out and naming different features of the ground; in discovering and describing different objects; in counting different objects or beings. Especially should noncommissioned officers be trained in describing the location, with reference to other objects, of objects difficult to see and in imparting information of this kind quickly and accurately.

Q. How may distances be determined?

A. 1. They may be estimated by the eye or by sound.
2. They may be determined by range finding instruments.
3. They may be determined by trial shots or volleys.
4. They may be measured by maps.

Q. What method is employed for teaching the soldier to estimate distance by the eye?

A. To estimate distance by the eye with accuracy, it is necessary to be familiar with the appearance, as to length, of a unit of measure which can be compared mentally with the distance which is to be estimated. The most convenient unit of length is 100 yards. To impress upon the soldier the extent of a stretch of 100 yards, two posts, 100 yards apart, with short stakes between to mark each 25 yards, should be placed near the barracks or on the drill ground, and the soldier required to pace off the marked distance several times, counting his steps. He will thus learn how many of his steps make 100 yards, and will become familiar with the appearance of the whole distance and of its fractional parts.

Next, a distance of more than 100 yards will be shown him, and he will be required to compare this distance with the 100-yard unit and to estimate it. Having made this estimate, he will be required to verify its accuracy by pacing the distance.

Q. What process is practiced in estimating long distances?

A. 1. The soldier may decide that the object cannot be more than a certain distance away nor less than a certain distance; his estimates must be kept within the closest possible limits and the mean of the two taken as the range.
2. The soldier selects a point which he considers the middle point of the whole distance, estimates this half distance and doubles it, or he similarly divides the distance into a certain number of lengths which are familiar to him.
3. The soldier estimates the distance along a parallel line, as a road on one side, having on it well-defined objects.
4. The soldier takes the mean of several estimates made by different persons. This method is not applicable to instruction.

Q. Under what conditions do objects seem nearer than they really are?

A. Objects seem nearer—
1. When the object is in a bright light.
2. When the color of the object contrasts sharply with the color of the background?
3. When looking over water, snow, or a uniform surface like a wheat field.
4. When looking from a height downward.
5. In the clear atmosphere of high altitudes.

Q. Under what conditions do objects seem more distant than they really are?

A. Objects seem more distant—
1. When looking over a depression in the ground.
2. When there is a poor light or a fog.
3. When only a small part of the object can be seen.
4. When looking from low ground upward toward higher ground.

Q. How is distance estimated by sound?

A. Sound travels at the rate of about 1,100 feet, or 366 yards, per second. If a gun is fired at a distance, a certain time elapses before the sound is heard. If the number of seconds or parts of seconds between the flash and the report be carefully taken and multiplied by 366, the product will be approximately the distance in yards to the gun. This method will be of doubtful use on the battlefield, owing to the difficulty of distinguishing the sound of the gun whose flash is seen from that of any other. It will probably be useful in determining the range to a hostile battery when it first opens fire.

Q. How are distances determined by the use of trial volleys?

A. If the ground is so dry and dusty that the fall of the bullets is visible through a glass or with the naked eye, a method of determining the distance is afforded by using a number of trial shots or volleys.

The method of using trial volleys is as follows:

The sights are raised for the estimated range and one volley is fired. If this appears to hit but little short of the mark, an increase of elevation of 100 yards will be used for the next volley. When the object is inclosed between two volleys, a mean of the elevations will be adopted as the correct range.

Q. What are the details of the estimating distance test that all soldiers are required to qualify in?

A. When instruction shall, in the opinion of the company commander, have progressed to such an extent as to enable the soldier to judge distances with the eye with fair accuracy, he will be tested for proficiency.

As the danger space is continuous for a man kneeling within a range of 547 yards (battle-sight range), and as individual fire and the fire of small squads will ordinarily be limited to 1,200 yards, the soldier will be tested for proficiency at distances between these two ranges.

The rules governing this test are as follows:

(*a*) The test will be supervised by an officer.

(*b*) Each soldier will be tested separately.

(*c*) The ground shall be other than that over which he fired or has previously estimated distances.

(*d*) The use of any device to mark the limits within which distances are tested (550 and 1,200 yards), at the time the test is given, so that this device can be seen from the estimating point, is prohibited.

(*e*) The objectives will be natural objects, men standing, kneeling, or prone, or silhouettes.

(*f*) For objectives, five or more natural objects will be selected, or single men or groups of men stationed or silhouettes placed within the ranges indicated above. The distances of the objectives will not be measured until all who are to estimate on them have made their estimates.

The men to be tested are conducted to a point near that from which the estimates are to be made, and remain facing away from the objectives or hidden therefrom by some feature of the ground. They are not permitted to know what objects are to be used in the test until they are called up to the estimating point.

The officer conducting the test calls up one man at a time, points out to him an objective, and causes him to estimate the distance thereto. This is continued until the soldier's estimates on five objectives have been obtained. When the test for the day is completed by any man, he will not be allowed to join the squad awaiting test. After all the men have made estimates of distances to a given series of objectives, ranges thereto will be measured.

(*g*) Proficiency for the expert rifleman and for the sharpshooter shall consist in making in five consecutive estimates an average degree of accuracy of 90 per cent.

Similarly for proficiency, marksmen, first-class men, and second-class men are required to make in five consecutive estimates an average degree of accuracy of 85 per cent.

Not more than three trials will be given, and should the soldier fail three times to make the required percentage, his final qualification will be reduced one grade below that obtained in firing.

Q. What firing is required in the known distance target practice of the soldier?

TABLE 1.—*Slow fire.*

Range.	Time.	Shots.	Targets.	Position.
200	No limit.	15	A	5 shots prone. 5 shots kneeling. 5 shots standing.
300		10	A	5 shots prone. 5 shots sitting.
500		10	B	Prone.
600		10	B	Prone, sand-bag rest.

A. 1. The instruction practice, qualification course, embraces slow fire at targets A, B, and D at 200, 300, 500, and 600 yards, and rapid fire at target D at 200, 300, and 500 yards. (Tables 1–3.)

TABLE 2.—*Target D, slow fire.*

[The battle sight only will be used.]

Range.	Time.	Shots.	Position.
200	No limit.	A minimum of 10 shots at each range.	Kneeling.
300	No limit.		Prone.
500	No limit.		Prone.

TABLE 3.—*Target D, rapid fire.*

[The battle sight only will be used.]

Range.	Time.	Shots.	Positions.
200	1 minute.	10	Kneeling from standing.
300	1 minute 10 seconds.	10	Prone from standing.
500	1 minute 20 seconds.	10	Prone.

The course in rapid fire (Table 3) will be fired twice, but on different days, for instruction.

2. Record practice, qualification course, consists of slow fire at targets A and B at 300, 500, and 600 yards, and rapid fire at target D at 200, 300, and 500 yards.

TABLE 4.—*Slow fire.*

Range.	Time.	Shots.	Targets.	Position.
300	No limit.	10	A	5 sitting, 5 kneeling.
500	No limit.	10	B	Prone.
600	No limit.	10 (2 S. S.)	B	Prone, sandbag rest.

TABLE 5.—*Target D, rapid fire.*

Range.	Time.	Shots.	Position.
200	1 minute.	10	Kneeling from standing.
300	1 minute, 10 seconds.	10	Prone from standing.
500	1 minute, 20 seconds.	10	Prone.

3. Long-distance practice is for experts and sharpshooters only. It is for instruction and is not a factor in qualification.

TABLE 6.—*Target C, slow fire.*

[To be fired twice, but on different days.]

Range.	Shots.	Position.
800	10	Prone.
1,000	10	Prone.

4. Practice with telescopic sights is for instruction of specially selected men in the use of this device, these to be experts or otherwise, four of the best shots among the enlisted men of the company. It is not a factor in qualification.

5. The supplementary course is designed for recruits and others who have joined after the practice season or so late in the season that it has been impracticable for them to fire.

Q. What is the target year?

A. It will commence January 1 and terminate December 31.

Q. What is the target practice season?

A. The practice season will consist of two months, called the regular season, and a period, not to exceed one month, called the supplementary season. All to be designated by the department commander upon the recommendation of subordinate commanders.

Q. What limitations are placed upon the time when target firing may be conducted?

A. During the period designated as the practice season, known-distance firing will be carried on in such manner that, while record firing should take place on favorable days and under the most favorable circumstances, the men should be required to practice under variable conditions of weather, care being taken that the shooting is not held under such adverse conditions as to make it unprofitable.

Q. What persons are required and authorized to fire at target practice?

A. The following table designates those who are required or authorized to fire the known-distance practice:

No.	Arm or corps.	To fire.
1	Infantry and battalions of Engineers	Battalion staff officers and company officers and all enlisted men of companies.
2	Cavalry.....	Squadron staff officers and troop officers and all enlisted men of troops.
3	Coast artillery.....	Special course A. Company officers and all enlisted men of companies.
4	Staff departments, except medical and chaplains.	All officers and enlisted men authorized but not required.
5	Staff corps.	
6	Veterinarians.	
7	Regimental field and staff officers of Infantry and Cavalry and field and staff officers of the Coast Artillery Corps.	
8	Regimental and battalion noncommissioned staff officers of Infantry and Cavalry and noncommissioned staff officers of the Coast Artillery Corps.	

All officers enumerated in the above table of over 15 years' commissioned or commissioned and enlisted service, except officers of the Medical Department and chaplains, are authorized but not required to fire.

Bandsmen will not fire (except in the Philippine Islands when required to do so by the department commander).

Cooks may be excused from firing.

Upon the recommendation of the surgeon, the post commander may excuse officers and men from practice.

A soldier who has completed the qualification course, record practice, and who is transferred or who is discharged and reenlists, will not fire the qualification course a second time in the same year.

A soldier who has qualified as expert rifleman will not again fire the record practice, qualification course, in his current enlistment.

A soldier will begin his regular practice in each enlistment with the instruction practice, qualification course (Tables 1, 2, and 3). Having completed this, he will fire the record practice, same course (Tables 4 and 5).

Reenlisted men who join within 20 days of the end of the regular season and who have not fired the qualification course that season are permitted but not required to fire that course.

Officers and enlisted men authorized but not required to fire and who are not on duty with a company or troop, will, if they fire, be attached to organizations for practice, and will be classified on the report of the organization to which so attached.

Q. What are the restrictions as to the arm that may be used in target practice?

A. The rifle or pistol shall be used as issued by the Ordnance Department, except that the front sight of the rifle may be shifted in order to "zero" it, and the wood of the upper band may be worked down. These changes must be made under the supervision of the company commander. The use of additional appliances, such as temporary shades for sights, spirit levels, orthoptic eyepieces, etc., is prohibited. The front-sight cover may be left on the rifle during firing and the sights may be blackened if desired. Telescopic sights may be used in combat practice. Troops will use in small-arms practice the weapon with which they are armed.

Small arms and appliances issued by the Ordnance Department for test and report will not be used in determining classifications.

Q. What use may be made of the gun sling in target practice?

A. The gun sling may be used at all ranges as an auxiliary to steady the piece, in connection with one arm only, provided that for the purposes of adjustment for shooting, neither end shall have been passed through either sling swivel. No knot will be tied in the sling, and the sling itself will not be added to nor modified in any manner.

Q. What use of rests are permitted in target practice?

A. In known-distanct practice a rest will

not be allowed for the rifle or any part of the body except as prescribed in these regulations.

In combat firing such rests as are available will be permitted.

Q. What limitations are placed upon the use of devices for determining the force and direction of the wind in target practice?

A. Anemometers, wind clocks, and other instruments, and flags, vanes or streamers for determining the force or direction of the wind will be allowed on the range during instruction practice, but not during record firing for qualification.

Q. What uniform and equipment is required to be worn by officers and men during target practice?

A. In all classes of firing the service uniform will be worn. The coat may be omitted when authorized by the post commander. In all known-distance practice the soldier will be equipped with rifle, cartridge belt, and cartridge belt suspenders. When firing, the cartridge belt suspender may be slipped from one shoulder if desired.

Officers when firing will wear the same equipment as their men. In conducting combat firing exercises, officers will be equipped with field glasses and pistols; sabers will not be worn.

Q. What limitations are placed on the amount of firing that an individual may have during instruction practice?

A. Instruction practice, qualification course, should carry out the purposes which the term implies, and hence the amount of ammunition to be expended in this practice should be in proportion to the instruction needed. For recruits and those who in the last season's practice failed to qualify as marksman or better, not less than that prescribed in Tables 1, 2, and 3 should be fired, and in special cases considerably more, so that the inexperienced shot may be given ample opportunity to determine the nature of his errors and the best methods of correcting them.

For those who have qualified as marksman or better and who have learned the principles of shooting, not so much practice is required to keep in condition for retaining the qualification or for improving it; hence, for experts and sharpshooters, the expenditure of ammunition in the instruction practice, qualification course, will not exceed 100 rounds and 130 rounds per man, respectively, in one season's practice. For marksmen, in one season of practice, this expenditure per man will not exceed the minimum number of rounds prescribed in the tables.

Subject to these restrictions, the expenditure of ammunition and the procedure as to order of practice and details followed in the instruction practice, qualification course, will be at the discretion of the company commander. Scores of 5 shots are permitted in rapid fire, instruction practice, and in some instances it may be found advantageous to begin instruction at 100 yards. The firing in this practice by a recruit of more than 50 rounds in one day is prohibited.

Q. What are the purposes of record target practice?

A. Record practice is for two purposes—first, to afford the soldier an object lesson of his progress; second, to obtain a record by means of which the soldier may be graded in awarding insignia and increased pay.

Q. What general rules are prescribed for the conduct of record target practice?

A. The rules for record practice must be fixed and be applicable to all alike. These rules must be strictly observed by all; scores must be recorded accurately; the work in the pit must be conducted with great efficiency.

In this practice "coaching" of any nature is prohibited. Each firer must observe the location of his own hit as indicated by the marking disk or spotter. After a soldier has taken his place at the firing point, no person shall render or attempt to render him any assistance whatever.

This practice will be conducted according to the regulations governing competitions, except that in a continuous pit there will be one officer to every two targets or less, and in each single target pit there will be an officer.

Scores will be kept in the pit and compared with the records made at the firing point.

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"The object of the Association shall be to promote the efficiency of the Infantry arm of the military service of our country by maintaining its best standards and traditions, by fostering esprit de corps, by the dissemination of professional knowledge, and by exchange of ideas as to the utilization of such knowledge with particular reference to the rôle of Infantry in modern war."—Article III of the Constitution.

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We received a vast number of subscriptions to the INFANTRY JOURNAL from Training Camps. Some of the lists were carefully prepared, while others were—shall we say, otherwise. In many instances, home addresses were given, in other cases, the temporary training camp address. If any individual who joined the Association and paid his first year's dues and subscription does not receive his copy of the JOURNAL promptly, he should write and ask us why, giving both his old and new address. Probably we have made some mistake in entering so many new names on our rolls. We can only correct these by the active cooperation of our members. Every member of the Association, whose dues are paid up, should receive the INFANTRY JOURNAL. Be sure to get your copy. Use the blank below, and write plainly.

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Huggins, Paul G.
Hulin, William W.
Humphrey, J. V., Jr.
Hunter, D. Gordon
Hunterman, C. F.
Huntress, F. C.
Hurley, H. W.
Hurley, Raymond J.
Husted, Elbert E.
Hutchings, J.
Hyatt, Walter D.
Hyde, Louis J.
Hylant, E. P., Jr.
Hyssong, C. L.
Ingerham, M. H.
Inman, Clyde G.
Inman, Edward K.
Irving, Wm. R.
Iselin, C. O.
Jaccard, E. G.
Jacques, H. E.
Janes, William T.
Jarman, Peterson B.
Jeffries, J. A.
Jellison, F. R.
Jenkins, W. E.
Jenner, L. T.
Jennings, P. A.
Jewett, T. S., Jr.
Jobson, Edward R.
Johns, L. N.
Johnson, A. A.
Johnson, E. G.
Johnson, F. C.
Johnson, G. L.
Johnson, N. P.
Johnston, William G.
Johnstone, A. W.
Jones, Albert L.
Jones, C. F.
Jones, Charles B.
Jones, Clifford C.
Jones, Horace C.
Jones, Jewett R.
Jones, Leland N.
Jones, Marcus E.
Jones, Walter S.
Jones, Wallace T., Jr.
Jones, Wm. Walter
Jones, Wilkins
Journeay, Edward L.
Joyes, Thomas C.
Judd, Arthur C.
Judes, Howard
Kaine, James B.
Kaiser, E.
Kaliska, William G.
Kaltenbach, Charles J.
Kane, Vincent I.
Kapka, H. L.
Kear, H. A.
Kearns, T. W.
Kearney, Daniel P.
Keating, Theodore B.
Keely, H. L.
Kelleher, H. G. M.
Kelleher, Joseph H.
Kelly, Chas. P.
Kelly, Lee P.
Kelly, R. K.
Kelly, T. J.
Kendall, A.
Kendall, G. L.
Kennedy, A. J.
Kennedy, E. T.
Kennedy, J. R.

Amendments to Constitution

The following letter has been received:

WASHINGTON, D. C., July 12, 1917.

THE SECRETARY,
United States Infantry Association,
Washington, D. C.

Sir: The undersigned members of the Infantry Association propose the following changes in the Constitution of the Association: Article IV, Section 10, now reads: "Membership shall date from the nearest first of July or first of January to the date of election." This should be changed to read: "Membership shall date from the first of the month following the date of election."

The purpose of this change is to avoid the congestion incident to sending out a large number of bills and renewal notices at one time and to spread the work over the entire year.

Article X now requires a two-thirds vote to make changes or alterations in the Constitution. This should be changed to read "majority" vote, as it is practically impossible under existing conditions of expanding membership and foreign service to secure a vote from two-thirds of the members.

Respectfully,

F. R. BROWN	G. W. MCIVER	J. B. BENNET
J. C. CASTNER	F. R. CURTIS	H. W. ARNOLD
D. T. MERRILL	CHARLES GERHARDT	W. P. BURNHAM
O. B. ROSENBAUM	ALEXANDER E. WILLIAMS	W. A. CASTLE
P. C. HARRIS	W. KREUGER	C. CORDIER
J. E. WOODWARD	G. H. JAMERSON	C. H. HODGES
J. F. KERR	B. H. WELLS	F. W. BRABSON
T. O. MURPHY	F. S. COCHEU	TENNY ROSS
J. T. DEAN	O. J. CHARLES	L. D. GASSER
R. O. VAN HORN	W. H. BERTSCH	P. W. BROWN

The articles it is proposed to amend now read as follows, with the words proposed to be stricken out indicated in italics and the words to be inserted printed in black face type, viz:

Sec. 10. Membership shall date from the *nearest first of July or first of January to the date of election* **[first of the month following the date of election]**, and the annual dues thereafter shall become payable on that date in each succeeding year. Members over two years in arrears shall be dropped from the rolls.

Art. X. This Constitution may be amended or altered by a *two-thirds* **[majority]** vote of the regular members either in person or by proxies in writing.

Regimental adjutants are requested to attach the ballot herewith to a sheet of paper and, after obtaining the signatures and vote of all members of the Association present, forward it to the Secretary of the Association, Union Trust Building, Washington, D. C.

BALLOT

United States Infantry Association

On the proposed amendments to the Constitution, I vote as indicated opposite my name.

Infantry Journal Advertiser

GENTLE HINTS
No. 33

WASHINGTON, D. C.
SEPTEMBER 1, 1917

1. Good news for our advertisers!

2. In the mountains of the West a snow slide may be started by a single rifle shot, and if conditions are favorable an avalanche may follow.

3. It appears that we have started something very like an avalanche from the number of new subscriptions we are daily receiving.

4. Our day force was unequal to the strain and a night force of clerks now takes up the work where tired brains and weary hands discontinue for the day.

5. Our subscription list has more than doubled in the past two months, and still they come. Good news for our advertisers!

6. Our new advertising rate card is ready for anyone who is interested in reaping the benefit of the work of publicity we have started in military circles.

7. For years now we have been hinting on this page at the value of cooperation. It is the Infantry way! After all, it is the only way!